JUNE, 1955

PRODUCTS finishing

A. E. S. Finishing Show Issue

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Finishes on *Metal* Products

LEA newsreel

JUNE, 1955

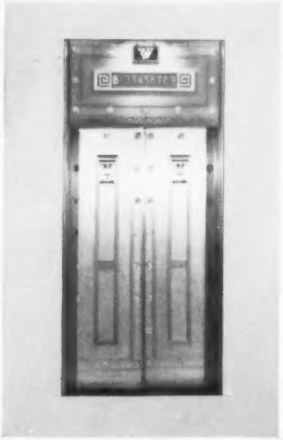
LEA SATIN FINISH—"The Finish of Quality"

- Satin Finished Articles have that quality look and retain this appearance for a long time because the finish is not easily marred.
- The economy of the Satin effect is well known. The Satin Finish blends with and eliminates the effect of underlying metal imperfections. As a result one or more finishing operations become unnecessary, thereby cutting production costs.
- Satin Finished products are finding more and more consumer acceptance everyday

Here are some case histories showing how the Lea Method of Satin Finishing has helped cut production costs.

ALUMINUM

Material — Aluminum.
Article — Furniture trim.
Method of Forming — Punching and stamping.
Final Finish — Satin.



Lea Method:
1. 120 set-up wheel.
2. Lea Compound Grade "L" or "C" on 10" diameter loose muslin buff at 1500 r.p.m.
3. Anodize.

Remarks —
Previously this work had been done by the use of Tripoli buffing after the polishing wheel operation, resulting in some polishing marks remaining. This step involved excessive cleaning which was entirely eliminated by the Lea Method.

BRASS

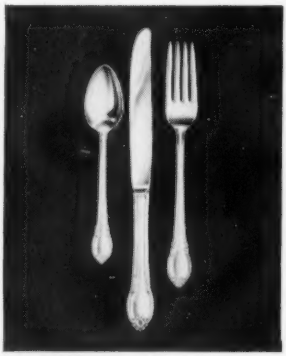
Material — Brass.
Article — Heavy Door Pulls.
Method of Forming — Casting & machining.
Final Finish — Satin finish.
Lea Method:
1. 100 set-up wheel (canvas).
2. 120 set-up wheel (felt).
3. Grade "B" Lea Compound on a 10" diameter muslin buff with radial sewing at 1800 r.p.m.
4. Lacquering.

Remarks —
The Lea Compound step was done in the same direction as the last polishing wheel operation so that there was no crossing of lines. The finish desired was produced with a minimum number of wheel operations and all cleaning eliminated.

STEEL

Material — Steel.
Article — Escutcheon plates, door plates, etc.
Method of Forming — Stamped.
Final Finish — Special satin brass plate.
Lea Method:
1. Brass plate.
2. Lea Compound Grade "R" on a 10" loose buff at 1500 r.p.m.
3. Lacquering.

Remarks —
In substituting for wet scratch brushing, the Lea Method eliminates all cleaning and drying and the nuisance of water stains on the brass surface.



SILVER

Material — Silverplate.
Article — Tableware.
Method of Forming—Forging (nickel silver).
Final Finish — Butler Finish.*
Lea Method:
1. Silver plate.
2. Lea Compound Grade "FG," "MF," or "MH" on 6" brass wire wheel at 800 r.p.m.

Remarks —
Fine grades of Lea Compound on a brass wire wheel produced the bright line finish required without the aid of a prior color buffing operation common to the old wet scratch brushing procedure.

*Butler Finish — A fine delicate satin finish with some brilliance.

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Please send additional information on the products shown on the following pages of this issue. (List page numbers and names of manufacturer.)

PRODUCTS FINISHING
JUNE, 1955

Page No.	Name of Manufacturer	Page No.	Name of Manufacturer

COMPANY_____

CO. ADDRESS_____

CITY_____ ZONE____ STATE_____

NAME_____ TITLE_____

Your Monthly Source For Finishing Ideas

Please send additional information on the products shown on the following pages of this issue. (List page numbers and names of manufacturer.)

PRODUCTS FINISHING
JUNE, 1955

Page No.	Name of Manufacturer	Page No.	Name of Manufacturer

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431 MAIN STREET

CINCINNATI 2,

OHIO

Are you looking for better methods for stripping paint?

WHAT'S THE BEST WAY TO STRIP METAL PARTS IN LARGE VOLUME?

See page 9

Do some finishes resist your present stripping methods? Do rejects pile up and cause a bottleneck in your production line? Do you have trouble stripping vertical surfaces of large products?

Oakite's FREE booklet on "How to STRIP PAINT" will help you find more efficient procedures. You'll want to read more about:

¶ What's the best way to strip paint from metal parts too large to be soaked in tanks? ***See page 3.***

¶ What's the best way to strip large areas of structural metal where a steam supply is available? ***See page 5.*** Where steam is not available? ***See page 7.***

¶ What are the best ways to prepare stripped metal for repainting? ***See page 11.***

¶ What strippers are best for removing oil-base paints? . . . Synthetic enamels, alkali-resistant plastics or resin-based paints? . . . Japans, wrinkle finishes, nitrocellulose lacquers, alkyds, phenolics and ureas? ***See page 12.***

FREE For your copy of "How to STRIP PAINT" just write or mail the coupon.

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Excellent cutting action. This development of Norton's famous ALUNDUM abrasive cuts fast, clean and cool — ideal for polishing jobs ranging from roughing to finishing.

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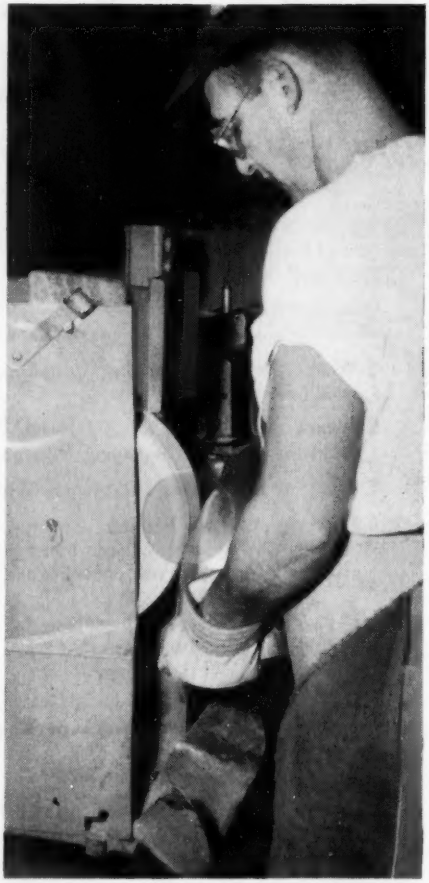

*Trade-Mark Reg. U. S. Pat. Off. and Foreign Countries

G-290

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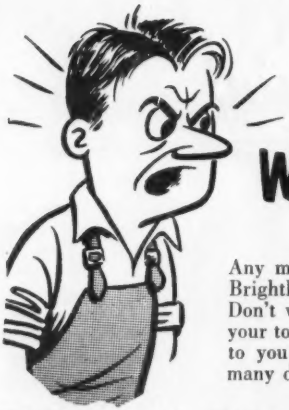

Who's got my Silicon 70?

Any man in the shop may have it, Charlie! Lots of 'em want Brightboy Silicon 70, and the other multi-use textures, too! Don't worry. If there aren't all the Brightboy wheel textures in your toolroom now that there should be, your dealer can get them to you pronto. Just ask for them, for only Brightboy can do many definite jobs.

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Products finishing

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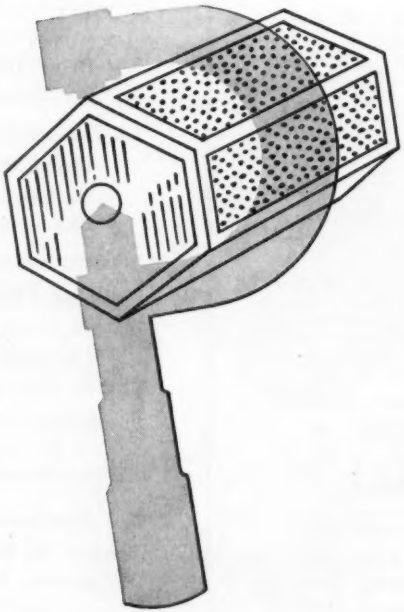

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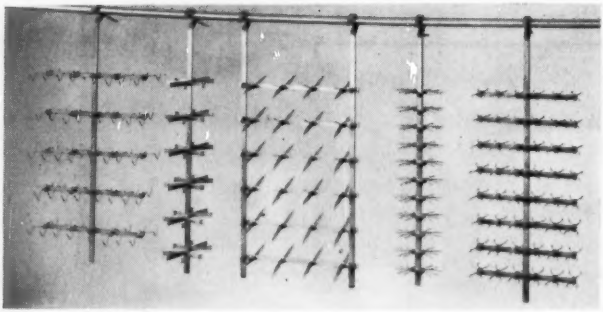

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Now you can make up your racks exactly as you need them, when you need them, at the lowest possible cost. You can cut rack preparation time to a fraction for those emergency jobs—using pre-formed parts.

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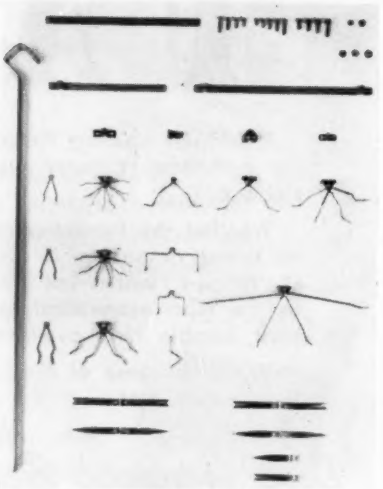

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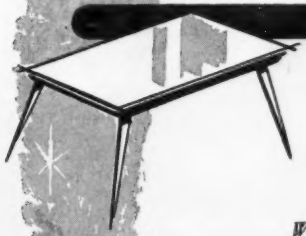

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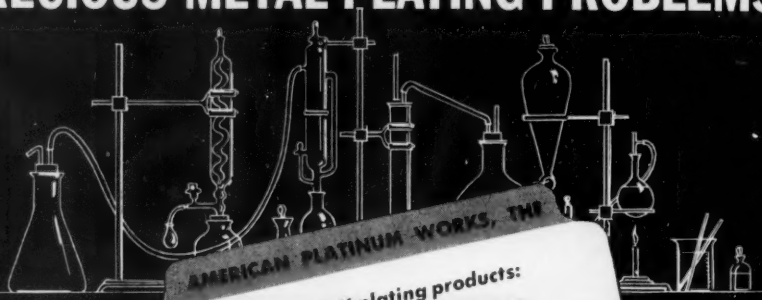

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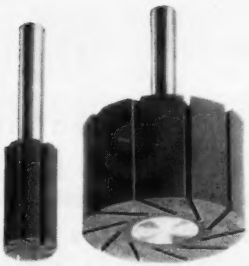

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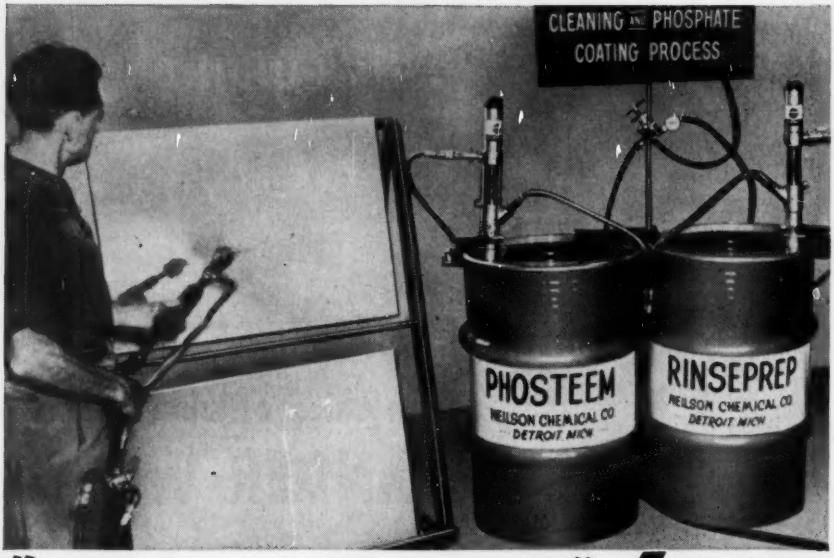

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Epon resin-based enamel has made it possible to conveyorize Daisy's barrel finishing process, resulting in much faster put-through. The enamel was formulated by Egyptian Lacquer Company, South Kearny, N. J., and Lafayette, Indiana.

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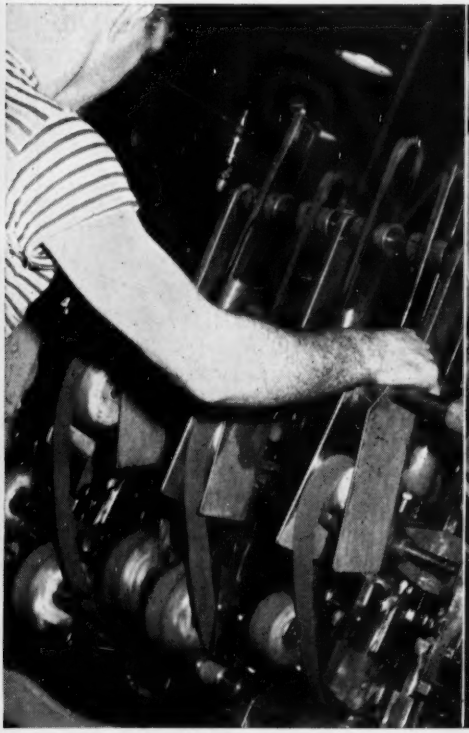
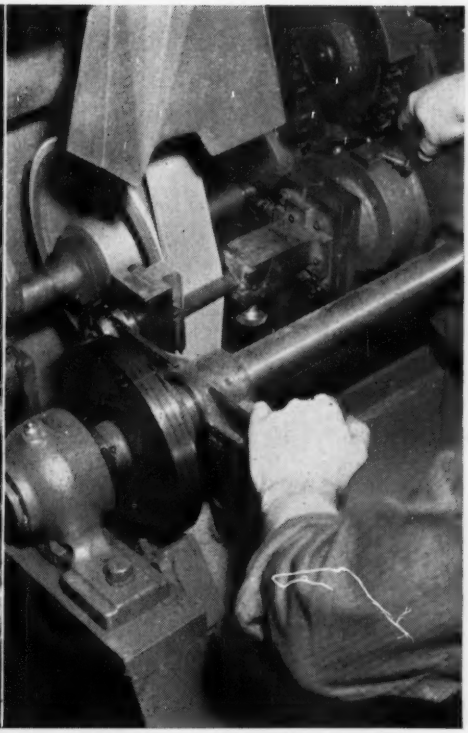


● Polishing crankshafts with abrasive tape on automatic machine.



● Grinding jet aircraft blades on abrasive belt machine

your **TOUGHEST** *production* **SCHEDULES!**

For grinding, finishing or polishing any kind of metal...with portable equipment or complex automatic machines...the *proper* coated abrasive products and techniques developed by CARBORUNDUM can save hours of production time, cut your costs, and give superior results on every job.

TOP QUALITY abrasive grain—silicon carbide and aluminum oxide—durable cloth and fibre backings, and tough resin bonds with greater holding power, combine to give you belts, tapes, discs, sleeves, cones and rolls that cut faster, last longer and produce better finishes.

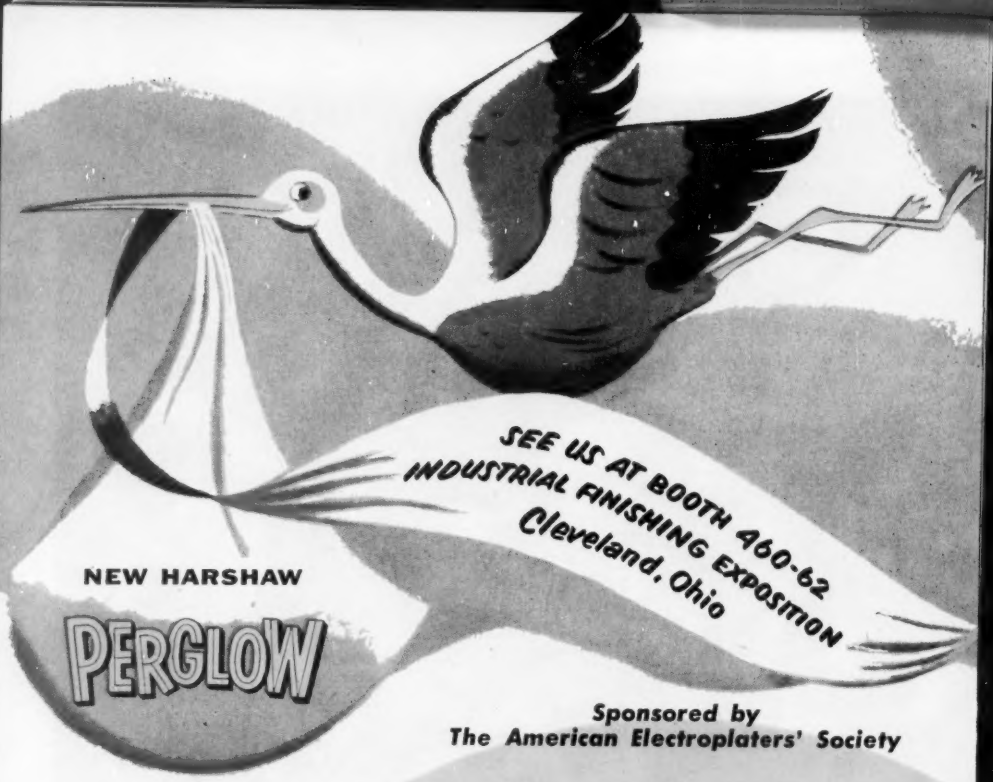
SPECIAL ATTACHMENTS developed by CARBORUNDUM save time and money, too! The "61" PORT-A-BELT Grinding Attachment, for example, lets you bring the abrasive belt to the work... gives fast, low-cost grinding on any surface—flat, convex or concave. *One* operation with PORT-A-BELT replaces two or three with conventional tools.

CARBORUNDUM

REGISTERED TRADE MARK

...continually putting more **SENSE** *in your abrasive* **DOLLAR**

82-54



Sponsored by
The American Electroplaters' Society

***Each* of these new outstanding Harshaw bright nickel plating processes has certain unusual characteristics which fit it to the product finish required in your plant.**

Top brightness with thin deposits . . . Especially outstanding color performance in applications where little or no basis metal finishing is done prior to plating. . . . Perglow or Nubrite deposits are extremely receptive to chrome plating . . . Unique leveling results of Perglow or Nubrite have a hiding and filling effect on surface defects which other nickel deposits tend to emphasize. Polishing costs are decreased.

For application in your plant, phone or write our nearest office.

NEW HARSHAW

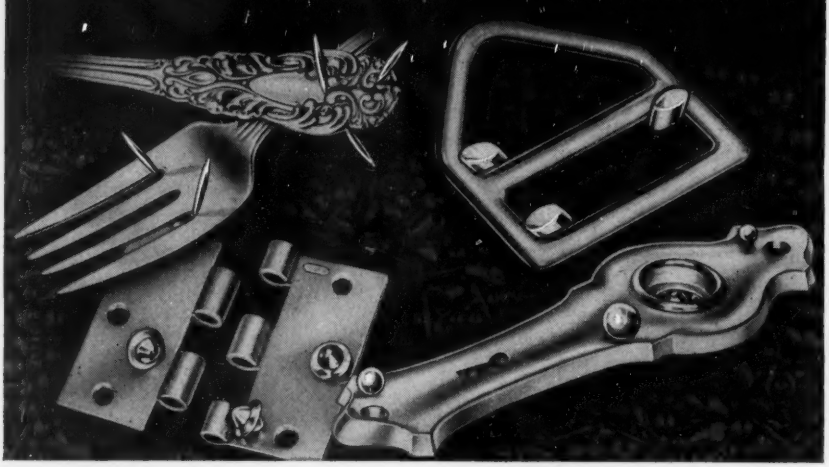
Nubrite

THE HARSHAW CHEMICAL COMPANY

1945 East 97th Street • Cleveland 6, Ohio

CHICAGO • CINCINNATI • CLEVELAND • HOUSTON • LOS ANGELES
DETROIT • PHILADELPHIA • PITTSBURGH • NEW YORK

in BURNISHING MATERIALS



it's the SHAPE that counts!

Thousands of small parts, stampings and castings are burnished for *Industry and the Armed Forces* with Abbott Burnishing materials. They're shaped to do the job *right!*

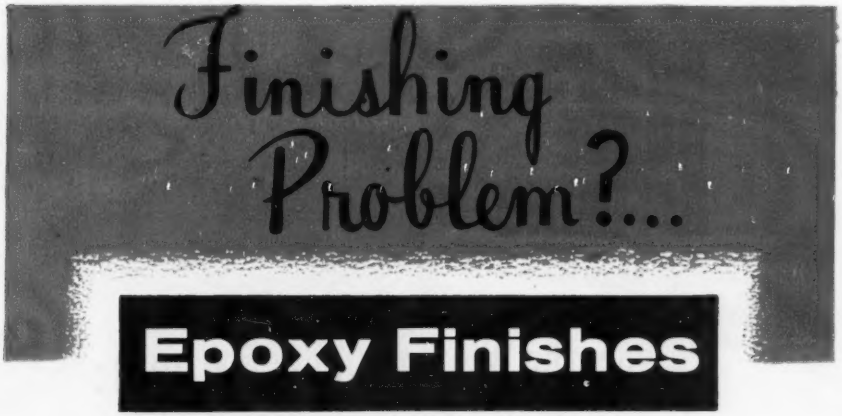
Abbott Burnishing Shapes — Ball, Ovalball, Cone, Diagonal, Pin — are scientifically designed to make effective contact on parts of of any size and shape. Each is made from Abbott's famed bearing ball steel, deep hardened and polished to a mirrorlike, glass hard finish.

If you have a burnishing problem . . . make use of Abbott's 40 years of barrel finishing knowledge. Write today.

ABBOTT

the all round ball

THE ABBOTT BALL COMPANY
1064 New Britain Ave.
Hartford 10, Conn., U.S.A.



NEW HORIZONS FOR EPOXY RESIN FINISHES

Watson-Standard's experience in producing epoxy resin finishes sets new standards for the metal coating industry. Coatings of epoxy resins in combination with vinyls and phenolics as well as esters and straight epoxies meet the most demanding requirements:

1. Excellent Chemical Resistance
2. Outstanding Adhesion to Metal
3. Superior Toughness-and Flexibility
4. Better Fabricating Qualities

These finishes are successfully used for refrigerators, caps and closures, drum and pail linings, quick bake coatings and many others. Perhaps the answer to your finishing problem is an epoxy resin coating.

Take advantage of Watson-Standard's experience. Let us help you with your coating problems.

"Knowledge, skill and technique through experience!"

Watson-Standard Co.

225 Galveston Ave., Pittsburgh 30, Pa.

NEW YORK OFFICE: 15 Park Row, New York 38, N. Y.
CHICAGO OFFICE: 55 E. Washington Street, Chicago 2, Ill.

Watson-Standard W-S FINE FINISHES

INDUSTRIAL FINISHES • PAINTS • PLASTICS • CHEMICALS

PHELPS DODGE REFINING CORP.

Serves the Plating Industry with:

TRIANGLE BRAND

COPPER SULPHATE

TRIANGLE BRAND

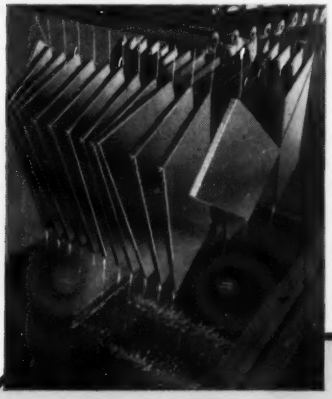
NICKEL SULPHATE

PHELPS DODGE REFINING CORP.

40 Wall Street, New York 5, N. Y.

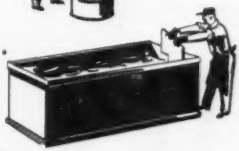
5310 West 66th Street, Chicago 38, Ill.

Use it COLD on all metals



In a drum...

In a tank...



or in your regular vapor degreasing machine.
No Special Equipment Needed!

KLEARALL 95

COLD DEGREASING SOLVENT

NOW . . . degrease light oils from metal parts without vapor . . . without heat . . . without rinsing . . . with KLEARALL 95. Profit by these KLEARALL 95 advantages:

- **Permits degreasing at any location or at one centralized point.**
- **Avoids production-line bottlenecks, even in coldest weather.**
- **Is non-explosive; won't support combustion in itself.**
- **Low tank evaporation.**
- **Evaporates speedily from finished work.**
- **May be redistilled dozens of times with high recovery.**
- **Has no objectionable toxic odors.**
- **Contains no Carbon Tetrachloride.**
- **Is exceptionally stable and non-corrosive.**

Cut your degreasing costs in half over the vapor process! Investigate KLEARALL 95. Get the facts for your factory. Special, technical data available to paint manufacturers.

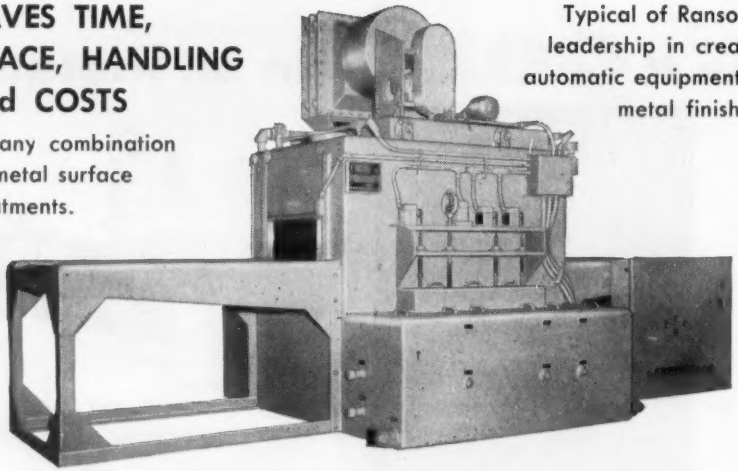
Photograph courtesy of Supreme Steel Products, Inc. Maspeth, L. I., New York

OCTAGON PROCESS INC

Write for Fact Sheet #2, STATEN ISLAND 1, N. Y.

SAVES TIME, SPACE, HANDLING and COSTS

on any combination of metal surface treatments.



Typical of Ransohoff leadership in creating automatic equipment for metal finishing.

New "Walking Spray" Cabinet Type

RANSOMATIC

offers a big opportunity for economy if you now use still tanks

Just roll a batch of work into the cabinet of a Ransomatic, press a button, and the work will be treated with any pre-determined sequence of solutions and rinses—thoroughly, accurately and efficiently. Can be built for any size work or any number or combination of solutions. Also built in drum type for work that can withstand rolling. Send for complete details.

Representatives In Principal Cities

RANSOHOFF, Inc.

610 North Fifth Street **Hamilton, Ohio**

For Rapid Barrel Finishing

EXOLON

Tumbling Abrasive

Various stamped, die cast, forged and screw machine parts before and after barrel finishing with EXOLON abrasives.

• More and more manufacturers are turning to barrel finishing for its big savings and uniformity over individual hand finishing.

Naturally, the process is only as effective as the abrasive used. In response to the demand for a fast-cutting, long-life abrasive, EXOLON has developed this superhard aluminum oxide grain which is *barrel-finished itself* for non-scratch, precision smoothing of your metal surfaces.

May we barrel-finish some of your sample parts *at no obligation to you?* Or, if you prefer, we are prepared to furnish you trial lots of Exolon Barrel Finishing Abrasive at quantity discount for trial in your own barrel. You will find, as others are finding daily, that it gives you a superior finish at substantially lower cost. Write today!

SINGLE OPERATION ECONOMY

★ IN CLEANING UP
★ IN REMOVING BURRS
★ IN REMOVING SCALE

from:

- forgings
- metal castings
- metal stampings
- machined parts

which can be handled in the barrel.

WRITE TODAY FOR DETAILS including our new fact-filled catalog.

The EXOLON Company

943 East Niagara Street Tonawanda, N. Y.
Thorold, Ontario, Canada

Manufacturers of SILICON CARBIDE and ALUMINUM OXIDE ABRASIVES

curves are our specialty

No. 14-45 CONTINUOUS ROTARY

Irregular shapes, curves*, recesses and just plain hard to reach areas present no problem for the 14-45 PACKER-MATIC (shown). Whatever your finishing requirements may be, keep in mind that PACKER-MATICS are *specifically* designed to meet the most rigid specifications, with greater speed and economy than hand operation.

*We make no reference to the shape at left.

PACKER-MATIC

AUTOMATIC MACHINES FOR BUFFING • POLISHING • DEBURRING

THE PACKER MACHINE CO.

MERIDEN, CONNECTICUT

diagnosis:

too much drying time— at too high a cost!

remedy:

INSTALL A FOSTORIA RADIANT OVEN!

Unlike convection ovens, infrared rays heat your product instantly. No costly "warm-up." And Fostoria Gold-Reflector Ovens direct 98% of the rays on the product. Production savings. Product improvement. Both are yours with Fostoria. Contact a Fostoria distributor or write us direct.

case history:

Drying time reduced 140% · Quality improved!

COIL SPRINGS: The same quantity of black japanned springs is now being baked in Fostoria radiant oven in 10 hours that previously took 24 by another method at the U. S. Steel Wire Spring Co. A less expensive grade of japan is now used, but a higher quality finish is apparent with Fostoria baking. Fostoria Ovens can bake, heat, or dry your product faster — on less floor space. Ovens cost less to buy—pay for themselves in months. If you heat, bake or dry, there is a profitable application for Fostoria Radiant Ovens in your plant.

Send for your free copy of "APPLICATIONS UNLIMITED"

THE FOSTORIA PRESSED STEEL CORPORATION

Dept. 622, Fostoria, Ohio

INFRA-RED fostoria SYSTEM

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We Cracked The Price Barrier

ALL SIZES

of the ORIGINAL

PROCESSED LIMESTONE HONING CHIPS

PROCESSED RED GRANITE TUMBLING CHIPS

FOR FAST SERVICE CONTACT YOUR DISTRIBUTOR OR US DIRECT

8¢ PER POUND

PACKED IN 100 LB. BAGS
F.O.B. DETROIT, MICHIGAN

New Products

Uni-Lite (Aluminum Oxide Tumbling Chips, Complete Range of Sizes)

COMPOUNDS

X - 25	Universal Abrasive Compound
X - 50	" Non- " "
X - 100	" Burnishing "
X - 125	" Honing "

UNIVERSAL TUMBLING SUPPLY CO.

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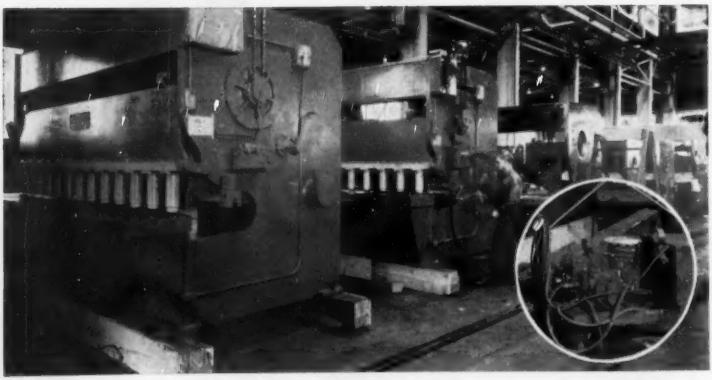
Pickling Pete's One smart Turk Picks Monel -Easy to work!

Easy to make up in the first place!
Easy to repair years later! That's Monel!
It's strong, too . . . and handles pickling
acids with ease. Learn more about lightweight
Monel equipment in free booklet,
"5-Way Savings in Pickling."

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street, New York 5, N. Y.

INCO TRADE MARK **Monel** Pickling Equipment

SPRAY PAINT IT ON THE SPOT!



CUT PAINT LOSSES

INCREASE PER GALLON COVERAGE

SAVE ON SOLVENTS

REDUCE HEALTH HAZARDS

MAINTAIN UNIFORM VISCOSITY

DESIGNED TO FIT YOUR NEEDS

DO IT WITH BEDE *AIRLESS* SYSTEMS

The Bede Airless Atomization Paint Spraying System illustrated above is located at The Cleveland Crane and Engineering Co., Wickliffe, Ohio . . . manufacturers of Tramrail Systems and STEELWELD Press Brakes, Shears and Presses.

The revolutionary Bede System incorporates the application of heated materials and hydraulic pressure . . . eliminating entirely the need for compressed air for atomizing purposes.

Bede Spray Systems have made it possible to spray paint these machines in the open, completely replacing slow and expensive brush painting methods. Cleveland Crane people say they are now using less paint, and that they are doing the job in less time than ever before.

Let us demonstrate what Bede Spray Systems can do to lower your finishing costs.

Booth 402, 1955 Industrial Finishing Exposition, Cleveland, O.

WRITE FOR CATALOG ON REVOLUTIONARY NEW AIRLESS SPRAY PAINTING PROCESS . . . *IT'S NEW*

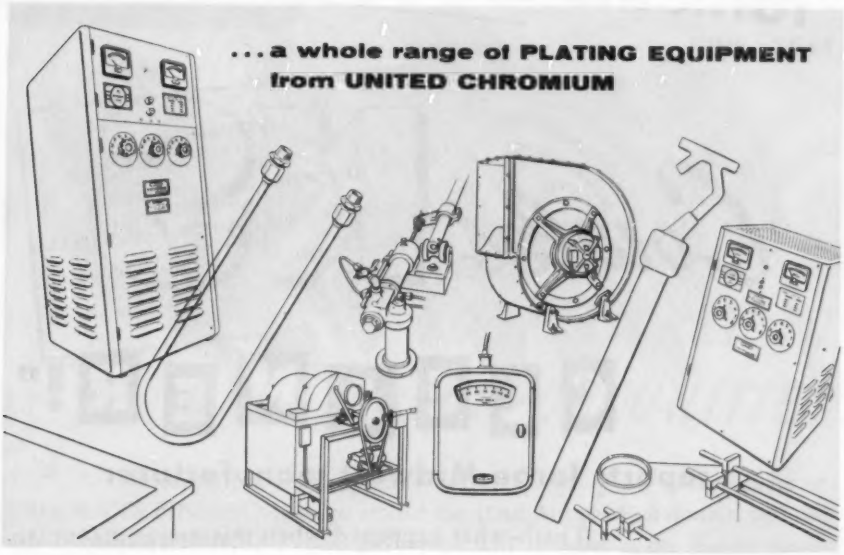
BEDE PRODUCTS CORPORATION

HOT SPRAY AND AIRLESS INDUSTRIAL FINISHING EQUIPMENT

JACKSON ST. AMHERST 44-711 AMHERST, OHIO

In Canada: Bede Products Canada Ltd., 864 Pape Street, Toronto

Designed to give you economy and efficiency in plating



Whether you need one new piece of equipment or a complete installation . . . here's good news for you. The Unichrome name can now be found on *equipment*, too.

That means plenty to platers who have known the kind of time- and money-savings which United Chromium's help makes possible. It means equipment that's right for the job . . . for longer service . . . and for substantial savings that go on year after year.

Ask us for a proposal. We'll be glad to survey your requirements in tanks, rectifiers, anodes, agitators, heating coils, temperature controllers, blowers, and all the other necessities for your operation.

UNICHROME

equipment • materials • processes

for better plating at a better profit

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A Metal & Thermit Organization

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Chicago 4, Ill. • Los Angeles 13, Calif.
In Canada: United Chromium Limited, Toronto 1, Ont.

"tank life DOUBLED with...

Cowles NS CLEANER!"

reports large Midwest manufacturer

That's what happened when this major manufacturer put Cowles NS—heavy duty soak cleaner—in its cleaner tanks. Tank life was doubled, quality of cleaning was improved, and total cost was reduced greatly.

Cowles NS eliminates soap scum build-up to assure long tank life and prevent deposition of scum on cleaned parts. High emulsification properties of Cowles NS keep the tank clear and reduce the costly, time-consuming process of dumping, cleaning and recharging tanks—jobs can be run *up to twice as long* without changing.

Cowles NS provides outstanding cleaning results and its flexibility permits its successful application in both porcelain enamel plants and in plating plants.

Your Cowles Technical Representative will be very happy to discuss your soak cleaning problems with you and help bring the same exceptional results with Cowles NS that this and many other plants have experienced. Write or call today.

Cowles CHEMICAL COMPANY
METAL CLEANER DEPT.
7016 Euclid Ave. • Cleveland 3, Ohio

pf editorial

Vol. 19, No. 9

JUNE, 1955

You are cordially invited to attend the
4th INDUSTRIAL
FINISHING EXPOSITION
and the
42nd ANNUAL CONVENTION
of the
AMERICAN ELECTROPLATERS' SOCIETY
CLEVELAND PUBLIC AUDITORIUM, CLEVELAND, OHIO
June 20-21-22-23, 1955
Exhibit hours:
June 20 . . . 10:00 A.M. to 6:00 P.M.
June 21 . . . 12:00 Noon to 10:00 P.M.
June 22 . . . 9:30 A.M. to 6:00 P.M.
June 23 . . . 9:30 A.M. to 4:00 P.M.

YOUR TICKET TO GREATER OPPORTUNITIES

• • • The American Electroplaters' Society invites you — Mr. Reader of PRODUCTS FINISHING — to attend the 42nd Annual Convention and the 4th Industrial Finishing Exposition which will be held at the Public Auditorium in Cleveland, Ohio from June 20th through June 23rd.

This Convention and Exposition will provide the technical and operating personnel of the metal finishing industry with an excellent opportunity for advancement. The Convention will present an educational program which is both timely and instructive, while the Exposition will offer practical demonstrations by the manufacturers of supplies and equipment which can aid you in the solution of production problems.

The free exchange of ideas is only possible under the sponsorship of a technical society. This exchange is a powerful tool for technical and economic progress in industry. The A. E. S. Convention and Exposition will provide you with the opportunity "to come, to see, to conquer" your problems with worthwhile ideas. Many of these ideas can be translated at a later date into more profitable operations for you and your company. Perhaps the million dollar idea which we are all seeking will be germinated at this Convention.

Ralph A. Schaefer

President,

American Electroplaters' Society

42nd ANNUAL CONVENTION

AMERICAN ELECTROPLATERS' SOCIETY

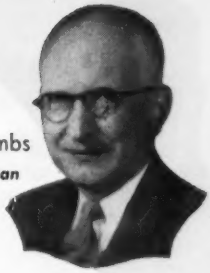
JUNE 20-23

CLEVELAND PUBLIC AUDITORIUM

CLEVELAND, OHIO

4th INDUSTRIAL FINISHING EXPOSITION

CLEVELAND PUBLIC AUDITORIUM



Eugene L. Combs
General Chairman

Cleveland Welcomes You!

The Cleveland Branch in "The Best Location in the Nation" extends an enthusiastic invitation to all of you to be with us in June.

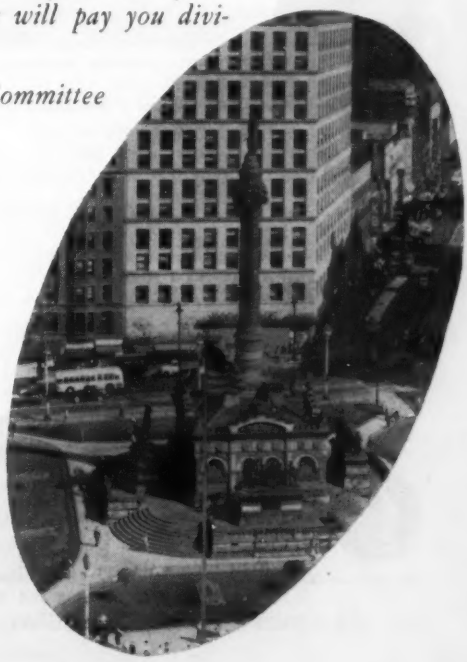
The 42nd Annual A.E.S. Convention presents a well-rounded technical program of interest to all. The largest Industrial Finishing Exposition ever staged by our Society awaits you. The Convention and the Exposition will be under one roof in Cleveland's Public Auditorium.

Come . . . Learn! One idea you obtain from the 1001 ideas we offer will pay you dividends.

Cleveland Convention Committee

Eugene L. Combs
General Chairman

Charles F. Ott
Co-Chairman



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President

Clyde Kelly
First Vice President

Dr. Samuel Heiman
Second Vice President

A. E. S. Officers

Francis T. Eddy
Third Vice President

Dr. George P. Swift
Past President

P. Peter Kovatis
Executive Secretary

CONVENTION REGISTRATION INFORMATION

(Eastern Daylight Saving Time)

SUNDAY

1:00 P.M.—9:00 P.M. Mezzanine Floor, Hotel Statler.

MONDAY

8:30 A.M.—12:00 Noon, Music Hall Foyer, Public Auditorium, St. Clair Ave. entrance.

9:00 A.M.—6:00 P.M. North Hall, Public Auditorium, Lakeside Avenue entrance.

7:00 P.M.—9:30 P.M. Rainbow Room, Hotel Carter.

TUESDAY

9:00 A.M.—10:00 P.M. North Hall, Public Auditorium.

WEDNESDAY

9:00 A.M.—6:00 P.M. North Hall, Public Auditorium.

THURSDAY

9:00 A.M.—4:00 P.M. North Hall, Public Auditorium.

The registration fee of $17.50 provides each registrant with a book of tickets covering all social events, and a badge of admission to all Educational Sessions and to the Industrial Finishing Exposition.

"SIAMESE TWIN" CLEANING RACE

ENGINEERED by A-F to clean cutting oil from small parts and the metal boxes in which they are conveyed, this A-F "Duo-Cleaning" Machine was built in the form of a "Siamese Twin"—with both the A-F Rotary Drum Unit and Wire Mesh Conveyor Unit in the same housing so as to use the same set of pumps and the same supply tank.

The small parts are cleaned in the rotary drum unit—the metal boxes are cleaned in the wire mesh conveyor unit . . . As the parts and boxes "race" through the cleaning process, the two machines are synchronized so that the boxes always come out first, in plenty of time to carry the same parts on to their destination.

Have you a metal products cleaning and processing problem? Let A-F Engineers help you solve it. Write today!

Write for New A-F Catalog — Today!

ALVEY-FERGUSON

Engineered CLEANING and PROCESSING MACHINES

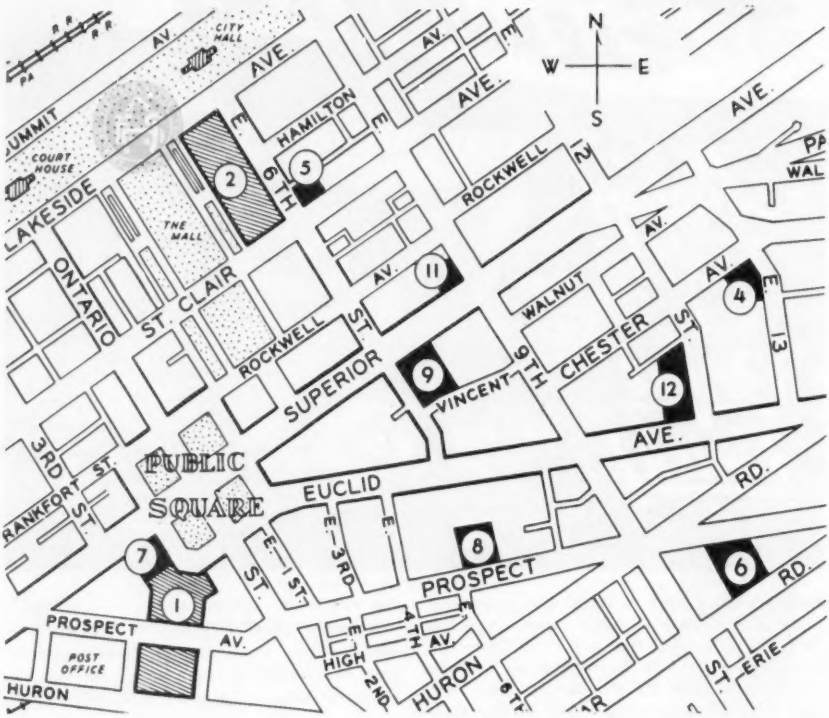
THE ALVEY-FERGUSON COMPANY

646 Disney Street CINCINNATI 9, OHIO

A-F Est. 1901

West Coast Plant: 760 N. Georgia St., Azusa, Cal.

Map of Downtown Cleveland



Courtesy of the Commercial Survey Company.

1. Union Station—Terminal Tower.
2. Public Auditorium, A.E.S. Convention and Industrial Finishing Exposition.
4. Allerton Hotel.
5. Auditorium Hotel.
6. Carter Hotel.
7. Cleveland Hotel.
8. Colonial Hotel.
9. Hollenden Hotel.
11. Olmsted Hotel.
12. Statler Hotel.

in minutes... peel spray-booths clean

"LIQUID ENVELOPE"

The ORIGINAL Time-Tested Strip-Coating

It's the quick, labor-saving, safe way to keep booths firesafe, better illuminated, better ventilated.

"LIQUID ENVELOPE" is non-toxic . . . does not contain dangerous chlorinated solvent. It will not corrode metal walls or ventilating ducts. And it's flame proof and fireproof . . . dry film will not burn or support combustion.

Costs less than hand-scraping or grease-papering as hundreds of plants have proved to their complete satisfaction year after year.

NEW-USERS SAMPLE OFFER

5-gallon test-sample at the drum-lot price. Order now from nearest distributor—start saving soon.

BETTER FINISHES & COATINGS, INC.

268 Doremus Avenue, Newark 5, New Jersey

122 East 7th Street, Los Angeles 14, California

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Convention

Sunday, June 19

10:00 A.M.—American Electroplaters' Society, Executive Board Meeting—executive secretary's suite, Statler.

1:30 P. M.—National Association of Metal Finishers, Meeting—English Room, Hotel Carter.

2:00 P. M.—Metal Finishing Suppliers' Association, Inc. Board of Directors' Meeting—Hotel Carter.

6:00 P. M.—National Association of Metal Finishers (N.A.M.F. and N.F.M.F.), Dinner—Petite Cafe, Carter.

8:30 P. M.—A.E.S. "Get Together Party"—Ball Room, Hotel Statler.
Admission by Registration Book ticket.

Monday, June 20

EXHIBIT HOURS 10:00 A.M. - 6:00 P.M.

8:00 A.M.—Speakers Breakfast—Parlor "H," Hotel Hollenden.

10:00 A.M.—Open Session and Business Meeting—Music Hall, Public Auditorium.
Invocation: Rev. Frank C. Mesle, Rochester Branch.
Welcome: Eugene L. Combs, General Chairman; A. J. Lupien, President, Cleveland Branch.
Address, "The Role of the M.F.S.A. in the A.E.S.:" Manson Glover, President, M.F.S.A.
Business Session: Dr. Ralph A. Schaefer, A.E.S. President, presiding.

12:30 P. M.—Speakers' Luncheon—Parlor "H," Hollenden.

2:00 P. M.—First Educational Session—Lower Level, Public Auditorium.

2:00 P. M.—A.E.S. Editorial Board Meeting—executive secretary's suite, Hotel Statler.

6:30 P. M.—Past Presidents' Dinner—Rendezvous Room, Hotel Hollenden.

9:00 P. M.—Open House—Rainbow Room, Hotel Carter.
Admission by ticket. Sponsored by the Metal Finishing Suppliers' Association, Inc. Refreshments, dancing. Buffet served at 10:30 P.M.

Tuesday, June 21

EXHIBIT HOURS 12 Noon - 10:00 P.M.

8:30 A.M.—Speakers' Breakfast—Parlor "H," Hollenden.

9:00 A.M.—Metal Finishing Suppliers' Association, Inc., Brunch, Meeting—Ball Room, Hollenden.

9:00 A.M.—Midwest Barrel Finishing Association, Meeting—Parlor "F," Hotel Hollenden.

9:30 A.M.—Second Educational Session — Ball Room, 4th Floor, Public Auditorium.

Timetable

12:30 P. M.—Metal Finishing Suppliers' Association, Inc.—Annual Golf Tournament—Sleepy Hollow Golf Club.
12:30 P. M.—Speakers' Luncheon—Parlor "H," Hollenden.
12:30 P. M.—Branch Librarians' Luncheon—Parlor "B," Hotel Hollenden.
2:00 P. M.—East-West Baseball Game.
2:00 P. M.—Third Educational Session, (Dual), Session A—Lower Level, Public Auditorium, Room A.
2:00 P. M.—Third Educational Session (Dual), Session B—Lower Level, Public Auditorium, Room B.

Wednesday, June 22

EXHIBIT HOURS 9:30 A.M. - 6:00 P.M.

8:00 A.M.—Speakers' Breakfast—Parlor "H," Hollenden.
8:00 A.M.—Michigan State Alumni Breakfast—Cleveland.
9:30 A.M.—Fourth Educational Session, (Dual), Session A—Lower Level, Public Auditorium, Meeting Room A.
9:30 A.M.—Fourth Educational Session, (Dual), Session B—Lower Level, Public Auditorium, Meeting Room B.
12:30 P.M.—Branch Secretaries' Luncheon—Parlor "B," Hotel Hollenden.
12:30 P. M.—Speakers' Luncheon—Parlor "H," Hollenden.
2:00 P. M.—A.E.S. Research Committee Meeting—executive secretary's suite, Hotel Statler.
9:00 P. M.—American Electroplaters' Society, Floor Show and Dance—Ball Room, Hotel Statler.
Admission by Registration Book ticket.

Thursday, June 23

EXHIBIT HOURS 9:30 A.M. - 4:00 P.M.

8:00 A.M.—Speakers' Breakfast—Parlor "H," Hollenden.
8:00 A.M.—A.E.S. Research Committee Breakfast—Flemish Room, Hotel Hollenden.
9:30 A.M.—Fifth Educational Session — Lower Level, Public Auditorium.
2:00 P.M.—A.E.S. Annual Business Meeting—Lower Level, Public Auditorium.
7:00 P. M.—American Electroplaters' Society Annual Banquet —Rainbow Room, Hotel Carter.
Admission by reservation ticket. In order to be served, your Registration book ticket must be exchanged before 6:00 P.M. on Wednesday, June 22, for a special banquet ticket bearing a table reservation at the Main Registration Desk, North Hall, Public Auditorium.

Ladies' Program

Ladies' Headquarters located in Hotel Cleveland.

Mrs. A. R. Hoffman
Chairman

Sunday, June 19

8:30 P. M.—A.E.S. "Get Together Party"—Ball Room, Hotel Statler.
Admission by Registration Book ticket.

Monday, June 20

12:00 Noon—Luncheon and Entertainment—Alpine Village.

9:00 P. M.—Open House—Rainbow Room, Hotel Carter.
Admission by ticket. Sponsored by the Metal Finishing Suppliers' Association, Inc. Refreshments, dancing. Buffet served at 10:30 P.M.

Tuesday, June 21

12:15 P. M.—Aunt Ella Society Luncheon and Style Show—Higbee's Department Store Auditorium.
Sponsored by Oakite Products, Inc. Host will be Dave Clarin.

Wednesday, June 22

9:30 A.M.—Tour to Westgate Shopping Center.
Two buses (from each hotel) will leave Hotels Carter, Cleveland, Hollenden, and Statler, at 9:30 A.M.

12:30 P. M.—Luncheon—Lake Shore Hotel.
Sponsored by Udylite Corporation. Host—Dr. R. B. Saltonstall.

9:00 P. M.—A.E.S. Floor Show and Dance—Ball Room, Hotel Statler.
Admission by Registration Book ticket.

Thursday, June 23

10:00 A.M.—Plato Party—Ball Room, Hotel Cleveland.
Joan T. Wiarda will be in charge of prize distribution.

12:30 P. M.—Luncheon—Ball Room, Hotel Cleveland.
Dorothy Fuldheim, news analyst, will be feature speaker.

7:00 P. M.—A.E.S. Annual Banquet—Rainbow Room, Hotel Carter.
Admission by special banquet ticket. In order to be served, your registration book ticket must be exchanged before 6:00 P.M. on Wednesday, June 22, for a special banquet ticket bearing a table reservation at the Main Registration Desk, North Hall, Public Auditorium.

Metal Finishing Suppliers' Association

Manson Glover
President

This year, as always, Metal Finishing Suppliers' Association is indebted to the Convention Committee for the privilege and pleasure of entertaining its friends, old and new.

M. F. S. A. is a growing and increasingly active trade association—founded as the International Fellowship Club, organized to bear conviviality into the technical gatherings of the early A.E.S. It succeeded impressively. It is our firm conviction that one real asset of the A.E.S. over other societies of similar aims is the warm friendliness of its get-togethers, and the I. F. C. was a factor in establishing this tradition. M. F. S. A. is proud to inherit and carry forward its ideals.

Open House. *On Monday evening formal welcome will be extended to all Conventioners and their families in the terraced ballroom of the Hotel Carter. The program calls for dancing from 9:00 P.M., a buffet spread at 10:30 P.M., light beverages for all tastes, and throughout the evening a happy reunion for old-timers and an auspicious introduction for newcomers to A.E.S. The president-elect of the Association will preside.*

Golf Tournament. *Vice President J. J. Duffy informs us that Golf Chairman Bob Renton and his assistant Bob Burford have selected for the M. F. S. A. Tournament the Sleepy Hollow Country Club, which lies conveniently for private cars on a freeway directly south of downtown Cleveland. Promptly at 1:00 P.M. Tuesday, the official starters will launch onto a gracious rolling countryside the first foursome of this tradition-steeped function. Bring your clubs, shoes, your handicap, and your arithmetic. The prizes are Really Sump'n.*

Incidentally, Bob Renton is arranging for golf privileges for a limited number of guests on Sunday, June 19 and Monday, June 20 at Chagrin Valley Country Club, Lakewood Country Club, Manakiki Golf Club, and Sleepy Hollow Country Club.

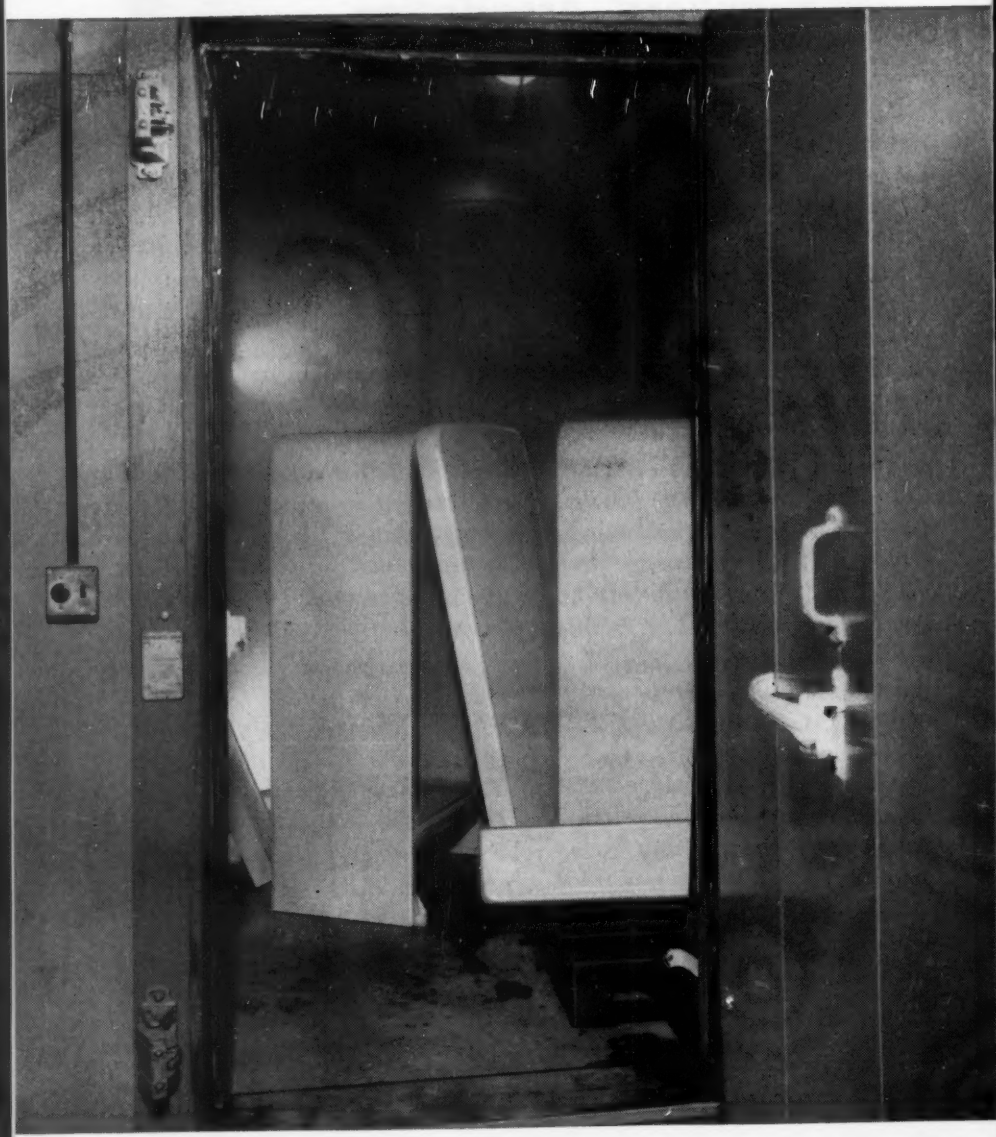
Happy Days are Here Again—See you in Cleveland!

Manson Glover

President

THE WEATHER:

Warm and Muggy, all year long...



SALES OFFICES AND FACTORIES: San Francisco, Los Angeles, Chicago (Nubian Division—1855 North Leclaire Avenue),

THE FINISH:

Nubelite — for Lasting Performance

In this humidity room, at left, NUBELITE*-finished refrigerator and freezer panels get an accelerated torture test to make sure the finish will stand up in the home.

Leading manufacturers use NUBELITE formulas that provide maximum humidity resistance while also providing the other properties required for satisfactory service life and appearance.

NUBELITE formulas incorporate the specific resistance properties required by the nature and function of each particular product.

Manufacturers are invited to call on Glidden Technical Service with problems of surface preparation and film application for any product.

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INDUSTRIAL FINISHES DIVISION

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Minneapolis, St. Louis, New Orleans, Cleveland, Atlanta, Reading. Canada: Toronto and Montreal

A. E. S.
Convention Committees

Eugene L. Combs, General Convention Chairman
Charles F. Ott, General Convention Co-Chairman

Educational

John B. Winters, E. J. Roehl, Arthur H. DuRose, Henry R. Friedberg, Marilyn Sanicky, and Robert W. Wild.

Exposition

Leon R. Westbrook, Eugene L. Combs, Howard H. Blouch, H. E. Head, Dr. Ralph A. Schaefer, P. Peter Kovatis.

Athletic

Robert Renton, George Shepard, John Vanas, Edward Bolen, and Stephen Palisin.

Publicity

J. W. Baker, Harry F. Allen, and Alvin E. Seeley.

Plant Visitation

William M. King, J. H. Hoefer, Earle J. Esner, and Henry J. Sedusky.

Information Center

C. E. A. Solla

Registration

William F. Acks, Howard Friedel, Gilbert Schaedler, C. A. Cairick, William Radtke, Ralph Everstine, George Walton, Jay Becker.

Entertainment

J. D. Little, Joseph E. Rhoads, and J. T. Bohovic.

Banquet

F. H. Bruening, J. C. Tervay, John Hallack, R. A. Wheeler, and A. R. Hoffman.

Advisory

Harvey Heil, C. R. Wheeler, Harry Pochapsky, L. N. Elicker, S. P. Palisin, Howard Blough, and John T. Hyduke.

Treasurer

A. J. Lupien

Secretary

Theodore Pavlish

Ladies' Auxiliary

Frances Hoffman, Margaret Piovarey, Ann Pavlish, Ann Platt, Rita Shepard, Gwin King, Eleanor Renton, Veronica Zinn, Irena Solla, Adelaide Ott, Charlotte Sedusky, Dorothy Allen, Marcella Oberg, Louise Pavlish, Margaret Schaefer, Gertrude Lowe, Lucille Schaefer, Alice Baker, Dorothy Sztul, Ann Boguski, Mary Combs, and Marie Hoefer.

Plant Trips

Make arrangements for all trips at Registration Desk, North Hall, Cleveland Public Auditorium.

Monday, June 20

1:30 P. M.—a. Ferro Corporation (one bus).
b. Standard Oil Refinery (one bus).

Tuesday, June 21

9:30 A.M.—Euclid Division, General Motors Corp. (two buses).

1:30 P. M.—Cleveland Graphite Bronze Co.

Wednesday, June 22

9:30 A.M.—a. Republic Steel Corp. Strip Mill (two buses).
b. Lewis Flight Propulsion Lab (one bus).

Thursday, June 23

9:30 A.M.—Chase Brass and Copper Co. (two buses).

1:30 P. M.—a. Nottingham Filtration Plant (one bus).
b. Sherwin-Williams Paint Company (one bus).

★ ★ ★ ★ ★

Where to Dine

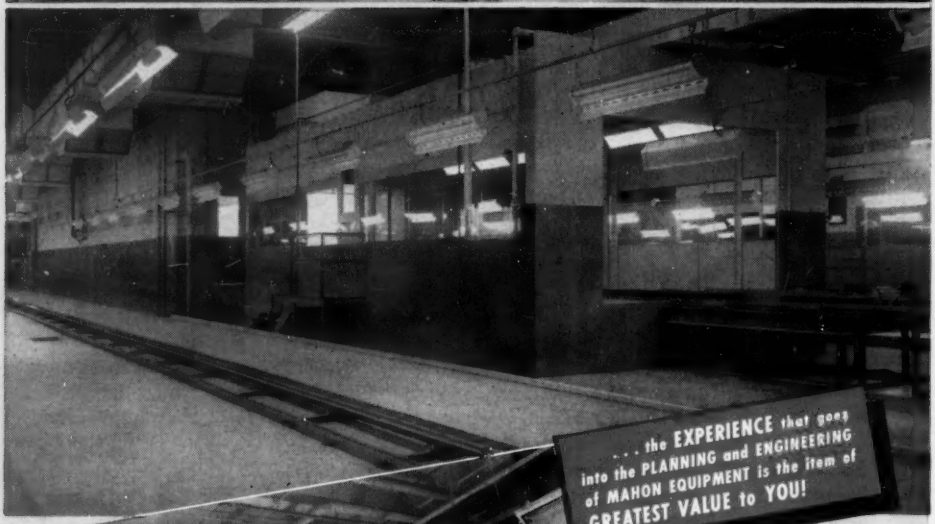
Hotels

Intimate Bar, Patio Dining Room, Alcazar Hotel. Surrey and Derbyshire Roads.
Chalet, Auditorium Hotel. 1315 6th St.
Society Lounge, Bolton Square Hotel. 8907 Carnegie Ave.
Lorenzo Carter Lounge, Carter Hotel. Prospect Ave. and E. 9th St.
Bronze Room, Rib Room, Hotel Cleveland. Public Square and Superior.
Coral Room, Fenway Hall. 1986 E. 107th St.
Vogue Room, Hollenden Hotel. 60 Superior Ave., N.E.
Nautilus Room, Lake Shore Hotel. 12506 Edgewater Dr.
Purple Tree, Manger Hotel. 1802 E. 13th St.
Olmsted Room, Olmsted Hotel. Superior Ave. and E. 9th St.
Terrace Room, Hotel Statler. Euclid Ave. and E. 12th St.
Chess Room, Tudor Arms Hotel. 10660 Carnegie Ave.
Lincoln Room, Wade Park Manor. E. 107th and Park Lane.
Silverthorne Bar, Hotel Westlake. 19030 W. Lake.

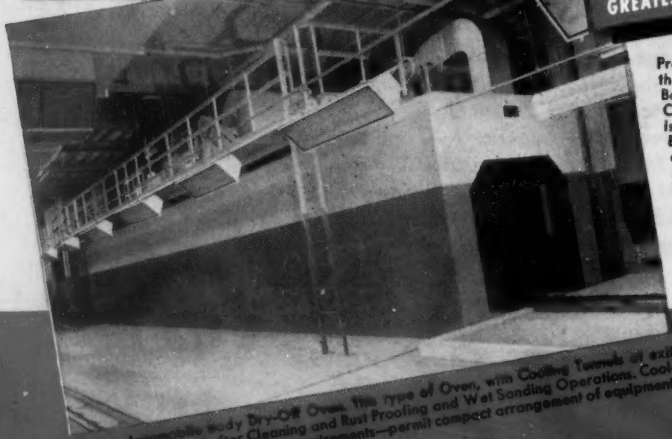
Restaurants

Alpine Village. 1614 Euclid Ave.
Gay Nineties. 1024 Walnut St.
Cavney's. Specializing in home made spaghetti and raviola. 1769 E. 12th and Chester.

COMPLET



. . . the EXPERIENCE that goes into the PLANNING and ENGINEERING of MAHON EQUIPMENT is the item of GREATEST VALUE to YOU!



Illustrations above show Mahon Pressurized Tack-Off Enclosures and the Dry Sump Hydro-Filter Spray Booths at Chrysler Corporation of Canada, Ltd. At left in the top view is the First Enamel Coat Spray Equipment. At the right is similar equipment for application of the Final Color Coat of Enamel. Final Wet Sand Deck appears in center. Bottom view is close-up of the exterior of typical Mahon Tack-Off Enclosure and Spray Booth provided in this modern automobile body installation.

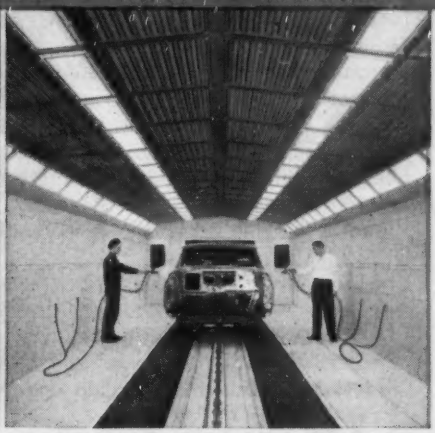
Mahon Automobile Body Dry-Off Oven, this type of Oven, with Cooling Tunnels at exit end, are employed after Cleaning and Rust Proofing and Wet Sanding Operations. Cooling Tunnels reduce Time-Length requirements—permit compact arrangement of equipment.

M

E Finishing SYSTEMS

. . . for ENAMELS • LACQUER • PAINT • VARNISH

Mahon Direct Gas-Fired Automobile Body Finish Baking Ovens. These Ovens are equipped with Humidifiers, and have multiple heat zones with automatic heat controls for each zone.



One of Four Mahon Dry Sump, Down-Draft Hydro-Filter Spray Booths at Chrysler, Canada. These Booths are equipped with Paint Strippers for traveling Floor Grating.

CANADIAN CHRYSLER BODIES Receive Their FINE FINISHES in a NEW, ULTRAMODERN, MAHON FINISHING SYSTEM!

Chrysler Corporation of Canada, Ltd., can today point to one of the world's most modern and most efficient automobile body finishing systems. In planning this installation, no detail was overlooked by Chrysler and Mahon engineers that would in any way add to operating efficiency or minimize maintenance and operating costs . . . many new features which make for long-range economy and contribute to better working conditions make their appearance for the first time in equipment of this type. If you have a finishing problem, or are considering new finishing equipment, you, like thousands of other manufacturers, will find that Mahon engineers are better qualified to advise you on both methods and equipment requirements . . . and better qualified to do the all-important planning and engineering of equipment—which is the key to fine finishes at minimum cost. You will find also, that Mahon equipment is built better for more economical operation over a longer period of time—a factor to be weighed carefully when comparing initial cost figures. Mahon will do your complete job on one contract . . . undivided responsibility for the entire system insures proper coordination and safe-guards you against complications which may upset your production plans or subsequent schedules. See Mahon's Insert in Sweet's Plant Engineering File for information, or write for Catalog A-655.

THE R. C. MAHON COMPANY • Detroit 34, Michigan • Chicago 4, Illinois

Engineers and Manufacturers of Metal Cleaning and Pickling Equipment, Metal Cleaning and Rust Proofing Equipment, Spray Booths, Flow and Dip Coaters, Drying and Baking Ovens, and Complete Conveyorized Finishing Systems.

AHON

Chinalane. Cantonese specialties served at luncheon and dinner. 1739 Euclid Ave.
Hickory Grill. Steaks, chops, and seafood are the house specialty. 929 Chester Ave.
Jim's Steak House. Steak, of course, is the featured food here. 1800 Scranton Rd.
Kornman's Cafe. Steak, lobster, seafood. 1788 E. 9th St.
Luccioni's. Finest spaghetti, scallopine, and Italian specialties. 4213 Euclid Ave.
Mahara's Steak House. Noted for seafood, chicken and special salad, as well as roast beef. 8817 Wade Park Ave.
Monaco's. Continental restaurant. 1118 Chester Ave.
Pierre's. Continental cuisine. 1542 Euclid Ave.
Rohr's. Famous for seafood. Steaks and chops served also. 1111 Chester Ave.
Sherwood Inn. Sirloin steaks are tops here. 425 Euclid Ave.
Stouffer Restaurants. 725 Euclid Ave., 1365 Euclid Ave.
Weber's. Serving steaks, chops, seafood, other American specialties. 242 Superior Ave.
Crosby's. Delicious planked steaks served. Carnegie Ave. and E. 105th St.
Sweden Manor. "Smorgasbord in the Swedish Manor." 3443 Euclid Ave.
The Russet Cafeteria. 850 Euclid Ave.
Bowen's Dining Room. Baked ham, duck, tenderloin steak. 6705 Detroit Ave.
Chef Hector Restaurant. Italian and American fare. Alpha Court at 9th and Euclid Ave.
The Gables. Roasts, steaks, chicken. 16800 Lorain Ave.
Italian Village. Broiled lamb chops, antiposto salad. 1739 Euclid Ave.
The Continental Restaurant. Crepe suzette, pressed duck, continental specialties. 1434 Euclid Ave.
Capri Restaurant. Italian and American food. 917-19 Woodland Ave.
The Southern Tavern. Steak, chops, filet mignon. Carnegie Ave., at E. 105th St.
The Pickwick Restaurant. Steaks, chops, seafood, a choice selection of desserts. 240 Superior Ave.
Chin's Golden Dragon Restaurant. Exotic Chinese dishes. 10613 Euclid Ave.
Sonnhalter's. Steaks, chops, chicken and seafoods. 5505 Euclid Ave.

POCKET HANDI-GAGE

A MAGNETIC THICKNESS TESTER

for electrodeposited, hot-dipped and painted coatings on steel. No bigger than a fountain pen, but what a job it does! Tests plated, painted, enameled, or plastic laminated coatings in SECONDS—in the lab or on the production line. Accurate, quick and easy to use.

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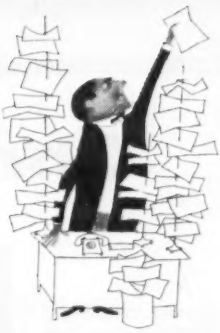
Paters Research CORPORATION

HOW TO SAVE MONEY

Relieve warehouse overload.

Combined orders can cut costs.



Reduce paperwork—one shipment, one order, one invoice.

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Fast action—one day service.

Products of the nation's leading producers.

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Aliphatic Petroleum Naphthas
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Dresinates
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Oils and Fatty Acids
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DETROIT, WAlnut 1-6350
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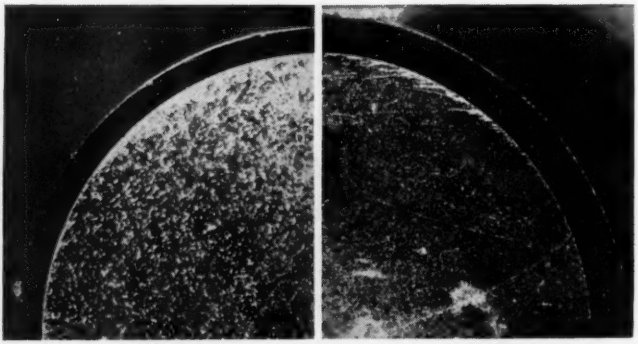
GRAND RAPIDS, CHerry 5-9111
HOUSTON, ORchard 6683
INDIANAPOLIS, MElrose 8-1361
LOUISVILLE, ATwood 5828
MILWAUKEE, GReenfield 6-2630
NEW ORLEANS, TEmple 4666
ST. LOUIS, GArfield 1-3495
TOLEDO, JOrdan 0761
WINDSOR, CLearwater 2-0933

News about UNICHROME Trade Mark

Chromium platers



Improved cathode efficiency cuts power need, ups output, saves time. Evidence of higher cathode efficiency of SRHS: Macrograph of steel rod section at left shows 0.016" of chromium deposited in 16 hours in ordinary solution. Identical rod section at right, plated in SRHS bath under identical conditions, got 0.0225" deposit — 40% more.

Here's undivided responsibility for good plating results

Unichrome Copper, Bright Nickel and SRHS Chromium represent the first complete, *matched* set of plating processes.

Platers can now *unify* their operation, get undivided responsibility for prompt technical help.

Equally important are the extra opportunities for improving output and cutting producion costs. For example:

A HELP IN PRODUCTION

Unichrome Pyrophosphate Copper enables platers to get the deposit to suit their requirements exactly. With one addition agent, a lustrous deposit is produced which can eliminate buffing. With another, a satin finish is produced which is ideal for buffing—permitting buffing of the free flowing copper rather than the steel or nickel.

With Unichrome Bright Nickel, deposits are obtained that are more receptive to chromium and avoid passivity problems. This stable bath also shows greater tolerance for impurities which means reduced downtime for purification.

Send for bulletins.

UNITED CHROMIUM, INCORPORATED

A Metal and Thermit Organization

100 East 42nd Street, New York 17, N. Y. • Detroit 20, Mich. • Waterbury 20, Conn.

Chicago 4, Ill. • Los Angeles 13, Calif. • In Canada: United Chromium Limited, Toronto 1, Ont.

make big gains

More progress reported in plants using Unichrome SRHS® Chromium Plating Solutions

The working advantages of SRHS Chromium Solutions show up in different ways. Here are a number of cases to illustrate.

MATERIALS CONSUMPTION CUT

In one automotive plant, the SRHS bath replaced the ordinary chromium solution in a full automatic, resulting in a decrease of salts consumption from 500 pounds down to 300 pounds daily – saving about $3000 a year on salts alone. This saving was due partly to lower dragout loss from the more dilute solution and to diminished spray loss from the more efficient SRHS solution.

POWER CONSUMPTION CUT

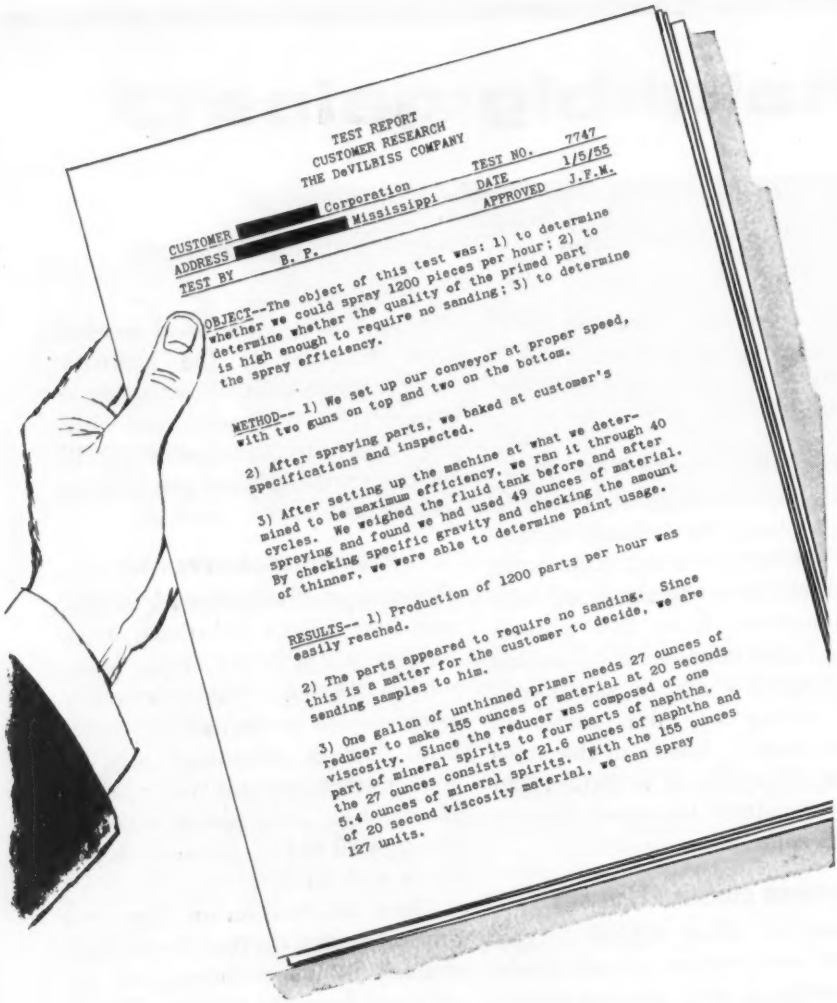
At another plant, SRHS halved power consumption. 4-rack loads of bumper guards now get coverage in SRHS with 2500 amperes, whereas this same load needed 5000 amperes in the ordinary chromium solution. Existing power supplies can gain additional work capacity with Unichrome SRHS Solutions, and platers can save on power, too.

PRODUCTION STEPPED UP

Because of the increased plating speed of SRHS Solutions, work took only 2½ hours in one shop, where 3½ hours had previously been needed in the ordinary solution. Taking advantage also of higher efficiency and wider bright plate range, some plants have put through 30 to 66% more work per *cycle* with SRHS.

More information on these and other benefits derived from Unichrome SRHS Solutions can be obtained from the nearest office of United Chromium. ®*Trade Mark*

Know in advance the benefits



TEST REPORT
CUSTOMER RESEARCH
THE DeVILBISS COMPANY

CUSTOMER [redacted] Corporation — TEST NO. 7747
ADDRESS [redacted] Mississippi — DATE 1/5/55
TEST BY B. P. — APPROVED J.F.M.

OBJECT--The object of this test was; 1) to determine whether we could spray 1200 pieces per hour; 2) to determine whether the quality of the primed part is high enough to require no sanding; 3) to determine the spray efficiency.

METHOD-- 1) We set up our conveyor at proper speed, with two guns on top and two on the bottom.

2) After spraying parts, we baked at customer's specifications and inspected.

3) After setting up the machine at what we determined to be maximum efficiency, we ran it through 40 cycles. We weighed the fluid tank before and after spraying and found we had used 49 ounces of material. By checking specific gravity and checking the amount of thinner, we were able to determine paint usage.

RESULTS-- 1) Production of 1200 parts per hour was easily reached.

2) The parts appeared to require no sanding. Since this is a matter for the customer to decide, we are sending samples to him.

3) One gallon of unthinned primer needs 27 ounces of reducer to make 155 ounces of material at 20 seconds viscosity. Since the reducer was composed of one part of mineral spirits to four parts of naphtha, the 27 ounces consists of 21.6 ounces of naphtha and 5.4 ounces of mineral spirits. With the 155 ounces of 20 second viscosity material, we can spray 127 units.

# of painting your product AUTOMATICALLY

A test production run in the DeVilbiss research laboratory can answer two big questions for you: (1) Is it practical for you to paint your products with fully automatic equipment? (2) How much will it cost?

For every manufacturer, the change-over from manual or semi-automatic painting to *fully* automatic painting is a major step.

And usually there's only one way to be *sure* if it's the *right* step: by an actual test run on already-installed equipment. For only then, ordinarily, is it possible to tell if automatic painting is practical – or even possible – on a production basis.

That's why many manufacturers are having us schedule trial production runs in our fully equipped research laboratory. For we can determine *in advance* whether or not painting your product automatically is practical or economical. Here's what we do:

Using your unpainted product, or a component part – together with your painting or coating specifications – we run a test on the standard automatic machine best suited to your product. When completed, the results of the test run are passed along to you.

Thus, you know ahead of time – before making any equipment purchases or shop modifications – if it will pay you to paint automatically. You know the most economical production rate, the amount of paint or other coating needed, the type of machine best suited for the job.

We'd be happy to work with you on such a test. Write us, in detail, describing your product or component, type or kind of coating applied, number of coats, and production rate desired, to: The DeVilbiss Company, Dept. 318, Toledo 1, Ohio.

THE DEVILBISS COMPANY
Toledo 1, Ohio

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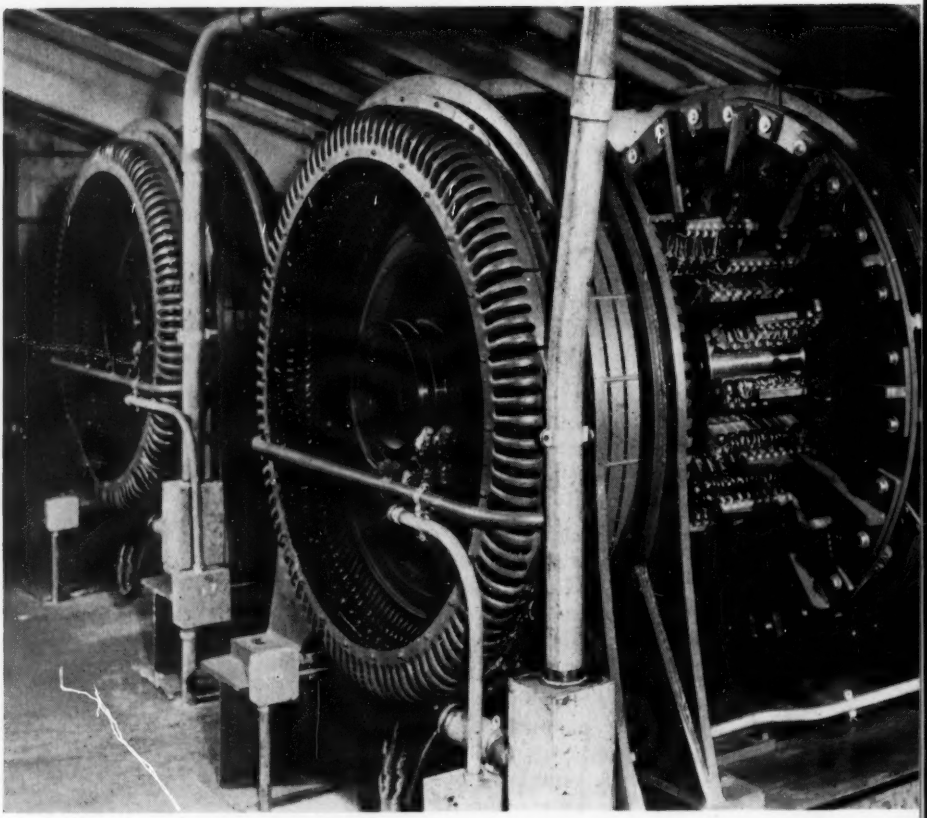
Offices in Principal Cities

FOR BETTER SERVICE, BUY
DEVILBISS



YOU SAVE 4 WAYS WITH

Chandeysson GENERATORS

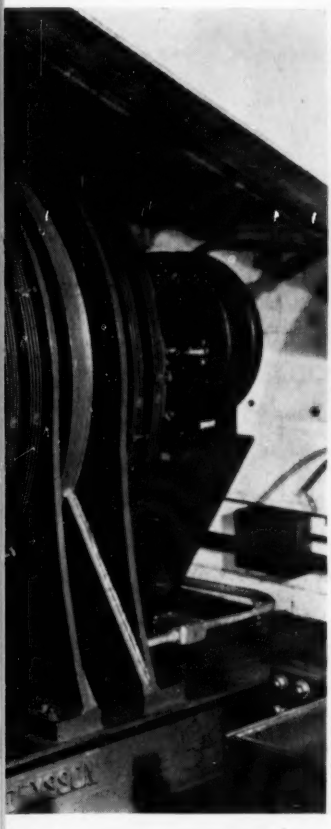
USE LESS POWER... precision-built for efficiency and built-in voltage regulation.

GET MORE OUT OF THE POWER YOU PAY FOR... built-in high power factor at no extra cost.

BE SURE OF POWER WHEN YOU NEED IT MOST... overload capacity as great as 50% momentarily and 25% sustained, without distress or damage.

ENJOY LIFETIME POWER DIVIDENDS... sustained, lifetime overall constant efficiency as high as 85% does not decrease with age or overload.

CHANDEYSSON ELECTRIC COMPANY, 4082 Bingham Avenue, St. Louis 16, Mo.



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Educational Program

All events are at Cleveland Public Auditorium. Eastern Daylight Saving Time used throughout the program.

M. R. Caldwell

FIRST SESSION

Monday, June 20, 2:00 P.M.

Moderator: M. R. Caldwell, Doehler Jarvis Company

1 — "The Plating of Beryllium Copper."
By S. J. Morana, Beryllium Corporation, Reading, Pa.

2 — "The Anodic Etch in Preparation for Plating."
By V. L. McEnally and Fred G. Brune, Chrysler Jet Engine Plant, Detroit, Mich.

3 — "Abrasive Blasting as a Metal Finishing Tool."
By George Barrett, Cleveland Pneumatic Tool Co., George Kaufman, Cleveland Cap Screw Co., and William C. Ehlert, R. W. Renton and Co., Cleveland, Ohio.

4 — "Metal Cleaning Evaluations Using Tagged Soils."
By J. Hensley, Wyandotte Chemicals Corp., Wyandotte, Mich.

Abstracts of Preceding Papers

The Plating of Beryllium Copper, by S. J. Morana.
Covers the silver plating of finished copper parts, cadmium plating of copper mill products and the chromium plating of plastic mold dies. Also included is a discussion of the general feasibility of plating on beryllium copper, the ease of plating and the durabilty of the plating itself.

The Anodic Etch in Preparation for Plating, by V. L. McEnally and Fred G. Brune.
The use of a sulfuric acid-epsom salt anodic etch solution in preparation of ferrous parts for plating is discussed. The successful application of this process to obtain good adhesion between base metal and the plated coating is considered. A concept is offered to help in understanding the mechanism by which the anodic etch assists in preparation for plating.

Abrasive Blasting as a Metal Finishing Tool, *by George Barrett, George Kaufman, and William C. Ehlert.*

Covers the preparation of metal prior to painting or plating and its effect on tool and die life.

Metal Cleaning Evaluations Using Tagged Soils, *by J. Hensley.*

Data are presented illustrating the effects of cleaning variables such as alkali types, concentration, current density, polarity, and cleaning time, with the various soil types. Use is made of carbon 14 as a tagging agent for the various types of soils.

★ ★ ★

SECOND SESSION

Tuesday, June 21, 9:30 A.M.

Moderator: B. B. Knapp, International Nickel Company

1 — "A Study of Hydrogen Embrittlement."
By Carl Beiser, Case Institute of Technology, Cleveland, Ohio.

2 — "Lead-Tin-Antimony Plating."
By R. T. Putnam and E. J. Roser, Pratt & Whitney Aircraft Co., East Hartford, Conn.

3 — "Electroless Nickel Plating of Non-Conductors."
By Philip Eisenberg and Harold C. Schneider, Sylvania Electric Products, New York, N. Y.

Abstracts of Preceding Papers

A Study of Hydrogen Embrittlement, *by Carl Beiser.*

Part A.—A color motion picture in which caricatures are used to explain the role of hydrogen in embrittling steel.
Part B.—A technical paper dealing with a study of the variables which affect the depth of penetration of hydrogen during cathodic pickling.

Lead-Tin-Antimony Plating, *by R. T. Putnam and E. J. Roser.*

Covers the development of lead-tin-antimony alloy plating as a production process, describing the effect of variations in solution composition and processing conditions such as current density, temperature and agitation.

Electroless Nickel Plating of Non-Conductors, *by Philip Eisenberg and Harold C. Schneider.*

Electroless nickel was used to plate non-conductors having varied geometry. A description is given of the cleaning and etching cycles, as well as the plating solutions used. Data are presented concerning plate adherence, deposition rates and solution control. Included in the paper are the results of microscopic examination of the plated non-conductors.

Educational Program

John J. Martin

THIRD SESSION (Dual) Session A

Tuesday, June 21, 2:00 P.M.

Moderator: John J. Martin, Enthone, Inc.

1 — "Some Aspects of Solution Level Control."
By J. W. Holland, Loren Stevens, Nello Arterburn, Indianapolis Branch, A.E.S.

2 — "Recovery of Plating Wastes."
By Dr. Louis Weisberg and E. J. Quinlan, Consultants, New York, N. Y.

3 — "Filtering Chrome Plating Solutions."
By R. F. Ledford, Industrial Filter & Pump Mfg. Co., Chicago, Ill., and Lloyd Gilbert, Rock Island Arsenal, Rock Island, Ill.

4 — "Report of A.E.S. Research Committee."
By Dr. Earl J. Serfass, Lehigh University, Bethlehem, Pa.

Abstracts of Preceding Papers

Some Aspects of Solution Level Control, *by J. W. Holland, Loren Stevens, and Nello Arterburn.*
Of all the variables encountered in plating, possibly the most neglected is solution level control. It is the object of this paper to emphasize solution level control and to review some of the methods employed to accomplish better control.

Recovery of Plating Wastes, *by Dr. Louis Weisberg and E. J. Quinlan.*
Describes the layout and operation of a plant for recovery of wastes from cyanide zinc plating and from a chromate conversion coating operation. Arrangements for segregating wastes according to type and for handling miscellaneous wastes from cleaning and dipping operations are covered. Installation and operating costs are also discussed.

Filtering Chrome Plating Solutions, *by R. F. Ledford, and Lloyd Gilbert.*
Describes a production installation where filtration in chromium plating is used. It will also show the effects of some filterable materials in chromium

deposits, the materials used in construction of the equipment, and performance of the equipment.

★ ★ ★

THIRD SESSION (Dual) Session B

Tuesday, June 21, 2:00 P.M.

Moderator: C. R. Wheeler, Elyria Plating Company

1—"Job Plating Shop Costs and Their Relation To Pricing."
By ARTHUR G. PIERDON, Art Metal Finishing Co., Washington, D. C.

2—"Purchasing Problems of a Manufacturer of Metal Finishing Equipment."
By EDWIN M. CLOSE, Hanson-Van Winkle-Munning Co., Matawan, N. J.

3—"How to Buy Plating."

4—"Outlook for the Distribution of Non-ferrous Metals."
By SIMON D. STRAUSS, American Smelting & Refining Co., New York, N. Y.

Abstracts of Preceding Papers

Job Plating Shop Costs and Their Relation To Pricing, *by Arthur G. Pierdon.*
A review of expenses encountered in small and medium sized shops. A simple method of determining whether a profit has been made on an order, and the forms and records used are described.

Purchasing Problems of a Manufacturer of Metal Finishing Equipment, *by Edwin M. Close.*
A definition of the various types of equipment involved in plating today. The growth and transition of equipment in the electroplating industry over the past ten years is described. The major problems involved in purchasing for the production of the plating equipment, and solutions of some of these problems are described.

How to Buy Plating.
The critical information required to ensure receiving the desired plated coating is described.

Outlook for the Distribution of Non-ferrous Metals, *by Simon D. Strauss.*
A discussion of the available supplies and production expansion for copper, zinc, and cadmium.

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Educational Program

L. M. Morse

FOURTH SESSION (Dual) Session A

Wednesday, June 22, 9:30 A.M.

Moderator: L. M. Morse, Chrysler Corp.

1 — "Electrotinning of Copper Wire From the Stannous Fluoborate Bath."
By A. E. Carlson, Gen. Chemical Div., Allied Chemical & Dye Corp., New York, N. Y.

2 — "Diffused Nickel-Cadmium as a Corrosion Preventive Plate for Jet Engine Parts."
By R. W. Moeller and W. A. Snell, Pratt & Whitney Aircraft Co., East Hartford, Conn.

3 — "The Application of Ultrasonics to Various Plating Systems."
By Stanley R. Rich, Rich-Roth Laboratories, Hartford, Conn.

4 — "The Effect of Different Chromium Deposits on the Fatigue Strength of Hardened Steel."
By Dr. J. E. Stareck, E. J. Seyb, and A. C. Tulumello, United Chromium Inc., New York, N. Y.

Abstracts of Preceding Papers

Electrotinning of Copper Wire From the Stannous Fluoborate Bath, by *A. E. Carlson.*
A continuous process for tin plating of copper wire, which comprises a number of tanks for cleaning and electroplating at high speeds, has been developed. Heavier size wires may be plated and subsequently drawn and annealed to obtain the finer sizes.

Diffused Nickel-Cadmium as a Corrosion Preventive Plate for Jet Engine Parts, by *R. W. Moeller and W. A. Snell.*
A description of the engineering application of 0.0003-inch nickel plate plus 0.0001-inch cadmium diffused at 630 deg. F. to provide corrosion protection to intricately shaped low alloy steel parts operating in jet engines at temperatures up to 1000 deg. F. Corrosion data are included as well as production processing experience, inspection procedures, and precautions of interest to the plater.

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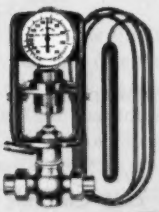
For plating tanks and other metal finishing processes. Powers Controls quickly pay back their cost by accurately holding solutions at a constant uniform temperature.



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2. Milky deposits
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4. A decrease in deposit density
5. Cracked deposits
6. Dark deposits

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The Application of Ultrasonics to Various Plating Systems, *by Stanley R. Rich.*

A study was carried out in cyanide copper and cyanide cadmium plating baths. Anode polarization was reduced, and the upper limiting current density was increased from 5 to 50 times the normal limiting density range. This study was made with various frequencies in both the high and low ranges.

The Effect of Different Chromium Deposits on the Fatigue Strength of Hardened Steel, *by Dr. J. E. Stareck, E. J. Seyb, and A. C. Tulumello.*

The fatigue properties of hardened SAE 4140 steel have been investigated when plated with different types of chromium. The effect of chromium plating on fatigue strength of steel is found to be related to stress in a deposit. The crack pattern, characteristic of electrodeposited chromium is related to stress and thus indirectly to fatigue in unbaked deposits.

★ ★ ★

F. Bauch

FOURTH SESSION (Dual) Session B

Wednesday, June 22, 9:30 A.M.

Moderator: F. Bauch, Frigidaire Div., G. M. C.

1 — "Progress Made in Airless Spray Painting."
By James A. Bede, International Development Company, Cleveland, Ohio.

2 — "The Flow Coating of Organic Finishes."
By E. A. Zahn, General Electric Co., Louisville, Ky.

3 — "Qualities, Processing, and Future of Porcelain Enamel and Ceramic Coatings." By E. E. Bryant, Ferro Corp., Cleveland, Ohio.

4 — "Electrophoretic Deposition of Metallic and Composite Coatings."
By J. J. Shyne, H. N. Barr, W. D. Fletcher, H. G. Scheible, Vitro Laboratories Div., Vitro Corp. of America, Pittsburgh, Pa.

Abstracts of Preceding Papers

Progress Made in Airless Spray Painting, *by James A. Bede.*

A complete description of the theory and practice of airless spray painting, showing that many of the early difficulties have now been eliminated.

The Flow Coating of Organic Finishes, *by E. A. Zahn.*

Devoted primarily to furthering the exploration of the so-called low pressure flow-coat method of paint application for industry. This method, in the opinion of the author, incorporates the best opportunities for the greatest gains in economy and the improvement in the quality of the applied finish.

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the beauty of a hammered finish plus the unique effect of NACROMER

NOW IN A READY-TO-SPRAY COATING

This new finish developed and produced by Orelite Products Corp. in Lodi, New Jersey, is more than just another hammer finish. The Mearl Corporation does not make the coating, only Nacromer, the key ingredient. Because of the Nacromer content, and the fact that it contains no aluminum or other metal powders, it has a depth and lustre unmatched by any other finish. The color range is infinite. It can be furnished in colors to your specifications.

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Qualities, Processing, and Future of Porcelain Enamel and Ceramic Coatings, *by E. E. Bryant.*

Porcelain enamel is a glass and as such must always have some of the characteristics of glass. The outstanding qualities and color possibilities of the surface are a necessity for many purposes. Improvement of processing methods should greatly increase the use of porcelain enamel for industrial, construction, and domestic applications where it is not now a necessity.

Electrophoretic Deposition of Metallic and Composite Coatings, *by J. J. Shyne, H. N. Barr, W. D. Fletcher, H. G. Scheible.*

Electrophoretic deposition is a technique for depositing materials from colloidal dispersions by application of a high D. C. voltage to the electrodes. The variables in the deposition process are voltage, electrode separation, dispersion concentration, and time. The process can be used for the formation of nickel, nickel-chromium and other alloy coatings.

★ ★ ★

Dr. Abner Brenner

FIFTH SESSION

Thursday, June 23, 9:30 A.M.

Moderator: Dr. Abner Brenner, Nat'l Bur. of Standards

1 — "Copper Anode Corrosion in Cyanide and Acid Copper Plating Baths."
By W. H. Safranek and Dr. C. L. Faust, Battelle Memorial Institute, Columbus, Ohio.

2 — "Methods of Conducting Classes for Electroplaters."
By Ezra A. Blount, Editor, "Products Finishing," Cincinnati, O.

3 — A.E.S. Research Project No. 15—"Accelerated Corrosion."
By W. L. Pinner, Houdaille-Hershey Corp., Detroit, Mich.

4 — A.E.S. Research Project No. 12—"Oil Spreading Studies."
By Dr. Henry B. Linford, Columbia University, New York, N. Y.

Abstracts of Preceding Papers

Copper Anode Corrosion in Cyanide and Acid Copper Plating Baths, *by W. H. Safranek and Dr. C. L. Faust.*

Copper anodes containing no oxides furnished less sludge in high speed type copper cyanide solution than other cast copper anodes contaminated with oxides. As a result, smoother copper plate was possible with the oxygen-free anodes. Electrolytic copper, forged and rolled anodes are compared with the cast anodes.

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Methods of Conducting Classes for Electroplaters, by Ezra A. Blount.
A report on electroplating classes currently conducted in private educational institutions and in public school systems, comparing specific courses of study, course outlines, methods and techniques of teaching, development of laboratory experiments, and other details.

A.E.S. Research Project No. 15—"Accelerated Corrosion," by W. L. Pinner.
Concerned with committee action on approximately 20 types of accelerated corrosion tests, on which work has been performed and of which certain promising ones are receiving continuing attention.

A.E.S. Research Project No. 12—"Oil Spreading Studies," by Dr. Henry B. Linford.
The spreading rate of an oil on metal can be used to predict how difficult the oil will be to remove. It is not necessary to know the composition of the oil to tell how hard it will be to clean a metal coated with the oil. The spreading rate is related, also, to the roughness and kind of metal being used.

which of these POLISHING PROBLEMS are yours?

- ☐ Reduction of belt sanding stages
- ☐ Cutting down buffing time
- ☐ Reduction of hand polishing
- ☐ Blending directional grind lines
- ☐ Lowering micro-inch finishes
- ☐ Exposing cracks and fractures
- ☐ Smoothing belt marks
- ☐ Imparting non-directional finishes
- ☐ Semi-reflective surfacing
- ☐ Blending brush marks
- ☐ Surface uniformity
- ☐ Removal of stress marks
- ☐ Obliterating
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QUALITY CONTROL FOR WELDED POLYETHYLENE. The subject of "Quality Control For Welded Polyethylene" is detailed in literature available from the **American Agile Corporation,** P. O. Box 168, Bedford, Ohio.

Data given in the literature is based on material written by Dr. J. A. Neumann and F. J. Bockhoff.

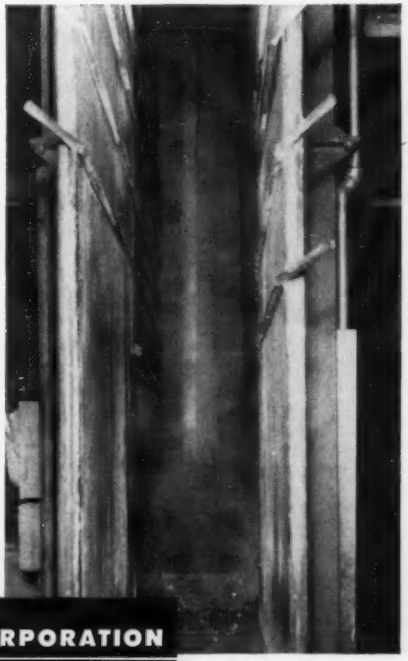
According to the literature, many methods are available for testing defects in polyethylene welds, both inherent and environmental. While each of these methods has its particular advantages, the most complete examination of a weld would be given by a combination of three tests: a spark test for porosity; a radiographic negative where necessary; and a test for detrimental environmental effects according to the American Agile test method 17-W.

No scale on nozzles after four months' spray phosphatizing!

THAT'S THE DIVOBOND SUCCESS-STORY AT BENJAMIN ELECTRIC MANUFACTURING CO.

"In the past we had considerable trouble with spray nozzles clogging and heating coils loading up. This required weekly maintenance in order to keep the machine operating. Since using improved Divobond for four months, we have never had to interrupt operations to clean the spray nozzles," reports G. F. Nieman, Works Manager of Benjamin Electric!

Yes—it's a fact that improved DIVOBOND not only cleans and phosphatizes in one operation, but it eliminates excessive downtime for maintenance. Control of the solution is simple . . . because the pH is not critical. And Divobond solutions will not form sludge and scale as other phosphatizing materials commonly do. Divobond is an important improvement in cleaning and phosphatizing. For proof, write for detailed information or an on-the-spot demonstration!



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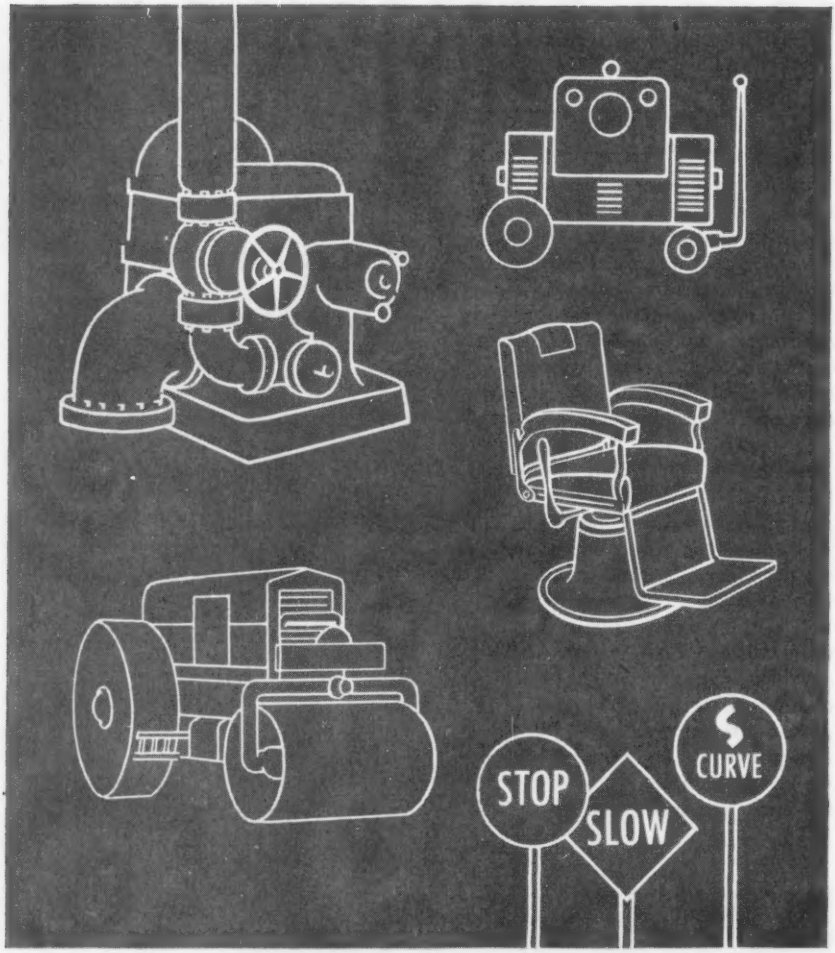
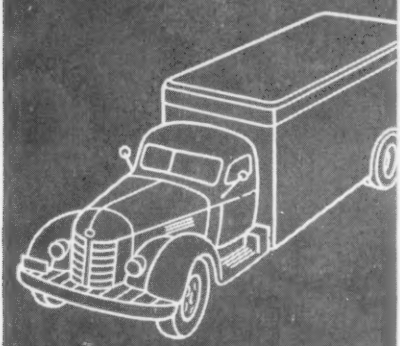


* ZINOXIDE is the ideal time-saving, money-saving primer for a wide variety of products—turbines, barber chairs, road rollers, welding equipment and road signs, to mention just a few. It adheres perfectly to all types of metal — even aluminum!

Primer handling time in half!

produces a better looking job— practically eliminates sanding



An Extra ZINOXIDE PLUS! Contains 2 of the best corrosion resisting pigments known to the paint industry! Products primed with ZINOXIDE can be stored *outside* without danger of rusting!

A midwestern truck body manufacturer* had heard about ZINOXIDE Primer—was intrigued—but wanted to see the *proof* in his own plant. A Lowe Brothers "Finishing Specialist" demonstrated its amazing qualities of adhesion and durability with impact and conical mandrel tests on a ZINOXIDE primed panel. Then, he put ZINOXIDE to the test on one of the large, hard-to-prime truck bodies—and here's what the manufacturer saw:

1. **ZINOXIDE flowed out smoothly** — NO OVERSPRAY, even where it was necessary to double back on corners.
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3. **Required no sanding** — except for minor touch-up where dirt was on the surface.
4. **Ready for finish coat immediately**—no time and effort spent pulling body out of booth to dry!
5. **Smooth, beautiful gloss,** without "orange peel," was secured in finish coat — proving ZINOXIDE'S excellent "hold out" qualities!

Now, Lowe Brothers ZINOXIDE is at work in this plant everyday—producing better looking results —saving time and money, too, by greatly reducing sanding and handling costs. You'll find that it will be worth your time to check into the possibilities of using ZINOXIDE. Write today for details —no obligation.

THE LOWE BROTHERS COMPANY • Dayton 2, Ohio
Industrial Division

This advertisement is based on facts from Lowe Brothers industrial case history files.

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Lowe Brothers
FINISHES FOR INDUSTRY

4th INDUSTRIAL FINISHING EXPOSITION

JUNE 20-23
CLEVELAND PUBLIC AUDITORIUM

Leon R. Westbrook
Exposition Chairman

THE 4th Industrial Finishing Exposition, in which 130 exhibitors are utilizing over 120,000 square feet of exhibit space, will afford finishers an excellent opportunity to see recent developments in equipment, machinery, processes and supplies for the Finishing Industry. Leon R. Westbrook, chairman, Exposition Committee, in commenting on the descriptions of the exhibitors' booths, stated that more products for industrial finishing plant use will be gathered together in one place than ever before shown at one time.

As a Show Feature, the committee has arranged for the exhibit of an operating model of a radar installation.

The American Electroplaters' Society will have an extensive exhibit in the North Hall, stressing the work of the

Cleveland Public Auditorium

Society and particularly the A.E.S. Research Program. Exhibits of A.E.S. Projects, 5, 12, 14 and 15 will be featured. A splasher machine used in accelerated corrosion tests for the performance of plated coatings will be in operation.

On the following pages appears a floor plan of the Exposition followed by a complete list of exhibitors with the booth number of each display. Descriptions of products and processes on exhibit may be found on pages 102 to 132.

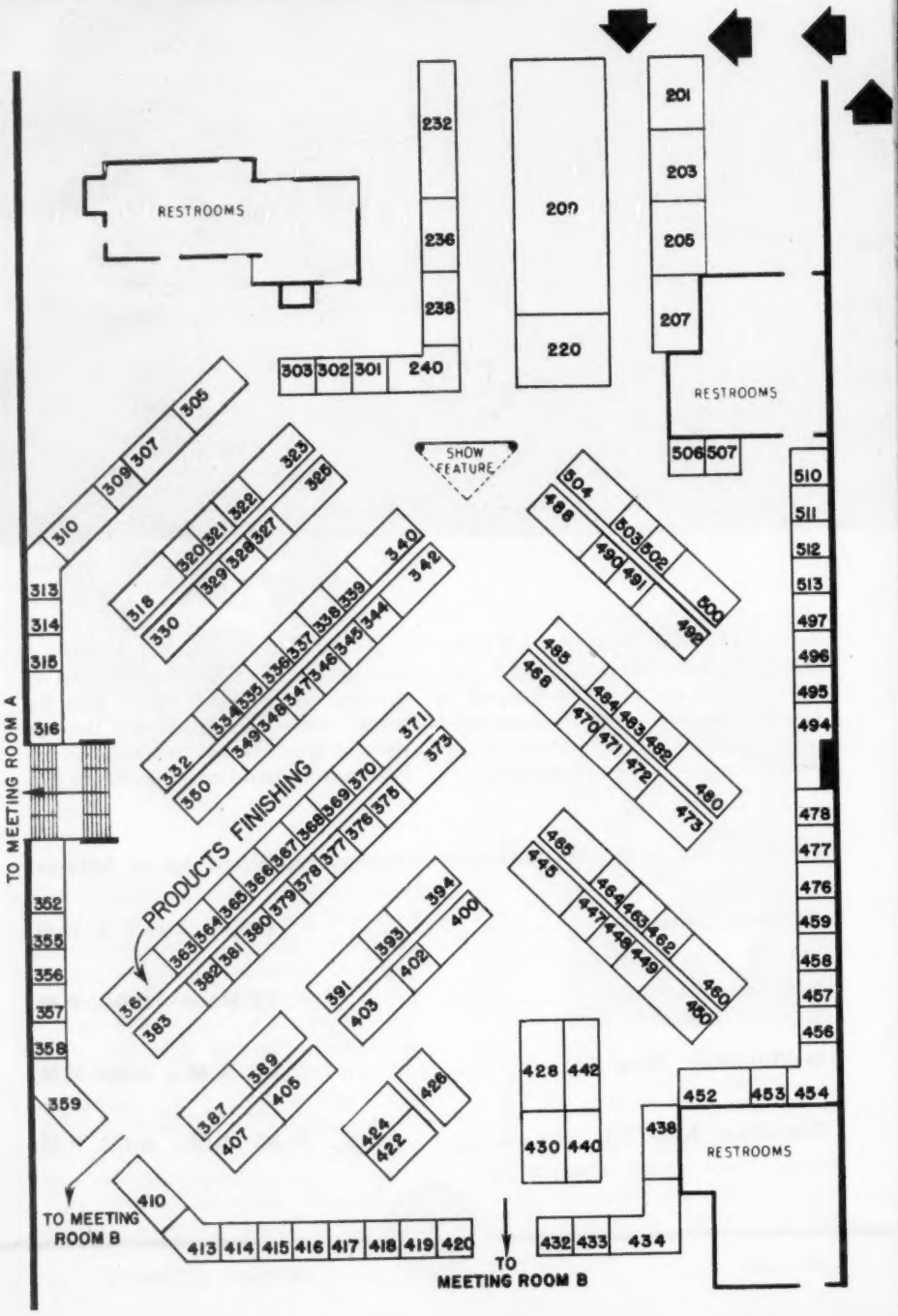
Exhibit hours of the 4th Industrial Finishing Exposition are as follows:

Monday, June 20 . . . . . 10:00 A.M.- 6 P.M.

Tuesday, June 21 . . . . . 12 Noon-10:00 P.M.

Wednesday, June 22 . . . . . 9:30 A.M.- 6:00 P.M.

Thursday, June 23 . . . . . 9:30 A.M.- 4:00 P.M.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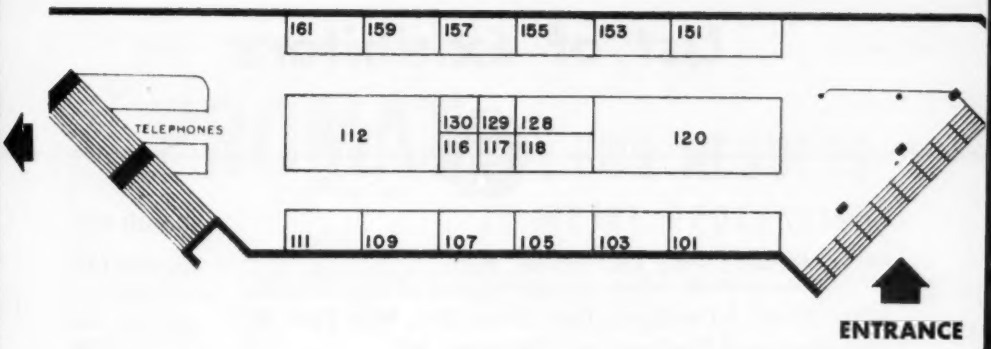

On this and the opposite page is shown the floor plan of the Cleveland Public Auditorium, site of the 4th Industrial Finishing Exposition. Booth numbers shown in the List of Exhibitors, pages 76 to 99 inclusive, refer to numbers shown on this floor plan.

PRODUCTS FINISHING extends a cordial invitation to visit our booth, No. 361. The following members of our organization will be on hand to greet you:

Richard S. Kline.....Sunday through Tuesday—June 19, 20, 21

Ezra A. Blount .....Sunday through Thursday—June 19, 20, 21, 22, 23

John M. Krings.....Wednesday, Thursday—June 22, 23

Granville M. Fillmore.....Monday, Tuesday, June 20, 21

George E. Hay.....Sunday through Thursday—June 19, 20, 21, 22, 23

Duncan W. Barton.....Wednesday, Thursday—June 22, 23

Gerard H. Poll, Jr.....Wednesday, Thursday—June 22, 23

List of Exhibitors

Firm	Booth No.
Acme Manufacturing Co., Detroit, Mich.	159-161
Robert Wesler, William Lumsden, Harold Lane, Adam Zimmerman, George Carlson	
Allied Chem. & Dye Corp., Gen. Chem. Div., New York, N. Y.	153
Allied Research Products, Inc., Baltimore, Md.	238
H. C. Irvin, L. C. Kingsbury, C. W. Ostrander, J. A. Cairns, R. Stricklen, L. J. Camill, A. L. Poe	
Almco Div., Queen Stove Wks., Inc., Albert Lea, Minn.	430
R. C. Trow	
Almond Publishing Co., Inc., Washington, D. C.	459
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American Buff Co., Chicago, Ill.	155-157
Ben P. Sax, Stanley P. Sax, Harry Pink, Marvin Radom, Harry Parsons, Morris Tychman, James H. Bacha, Edward W. Hoyle	
American Electroplaters' Society	North Hall
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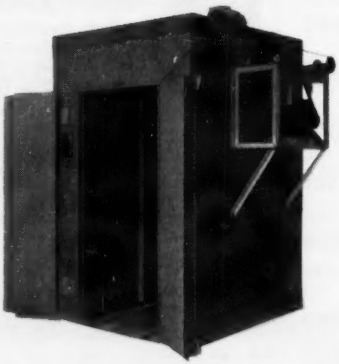

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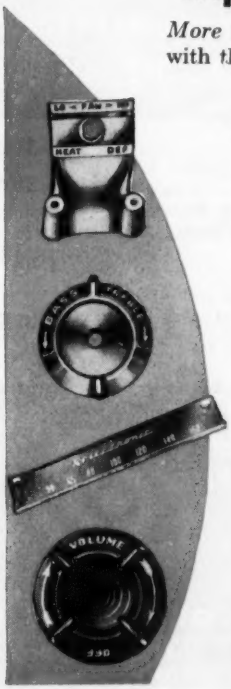

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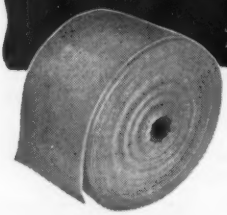

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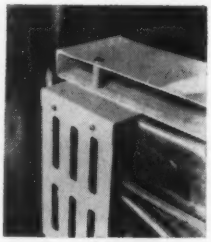

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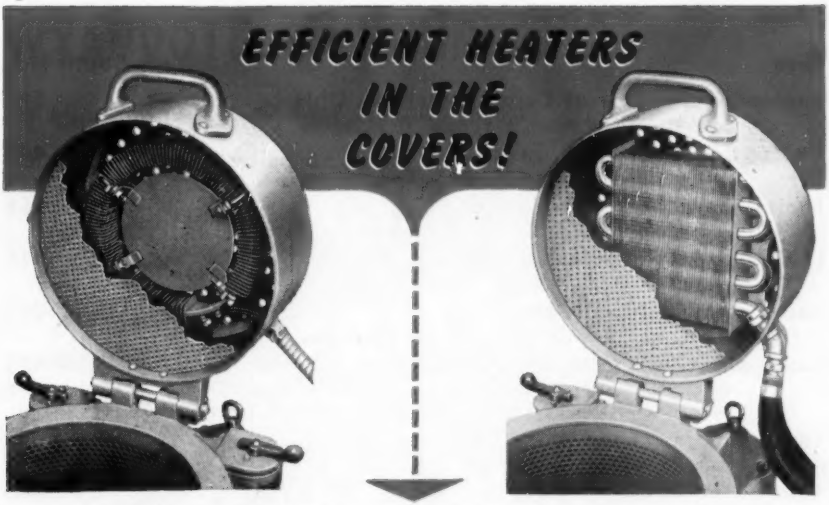

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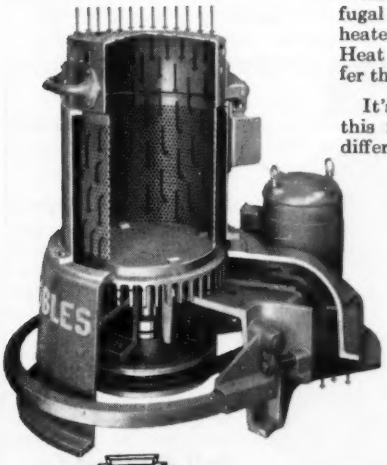

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For use after Copper and Brass plating—to facilitate drying and prevent spotting, particularly in humid weather. After this treatment, goods can be stored as long as a year. In many instances, the lacquering process has been eliminated through the use of this product.

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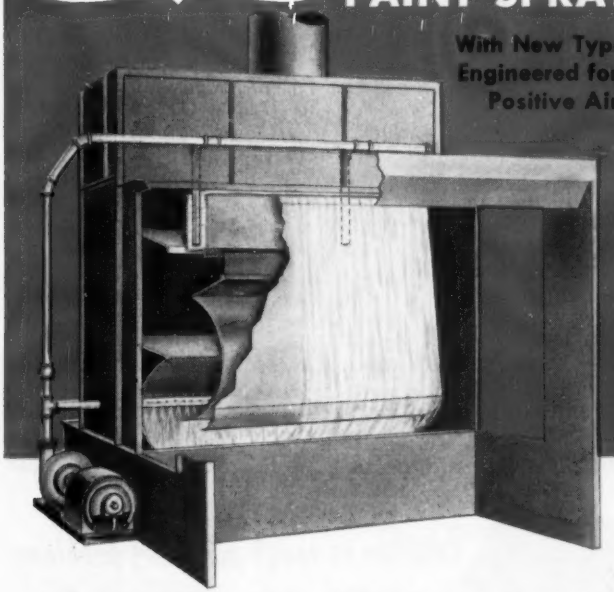
NEW WATER WASH PAINT SPRAY BOOTH

With New Type Baffle Chamber Engineered for 100% Efficiency Positive Air Cleaning Action



Entirely New! The new type baffle chamber provides a positive air cleaning action that prevents paint pigments, moisture and volatiles from reaching the exhaust stack or the outside of a building.

The new air scrubbing chamber features a specially-designed spray header mounted within two curved baffle plates. When water is pumped into the header it sprays [illegible] from three rows of orifices and strikes the baffle plates, building up a violent spray turbulence that removes practically every last particle of paint.

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NEW **Water curtain supply header** is located *outside* the plenum chamber for easy access. Vertical feeder lines do not interfere with tank adjustments.

NEW **Water Curtain Supply Tank** is completely adjustable. It provides a uniform, non-splashing flow of water that completely covers the curtain and prevents any paint accumulation.

NEW **Bleeder Line Keeps Header Clean** . . . keeps orifices from clogging. The new Bleeder line causes a continuous flow of water from the bottom of the header, preventing the settling of solids in the bottom of the pipe.

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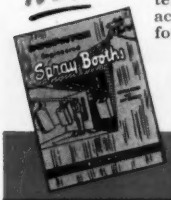
1. Will exhaust air containing not more than 5 grains of solid every 1000 cu. ft. of air handled.*
2. Will exhaust air containing not more than 50 parts per million solvent vapors.*
3. Will reduce down time for cleaning to a very minimum, thus increasing production.
4. Will prevent paint pigments, moisture and volatiles from reaching exhaust stack or outside of building.
5. Will thoroughly eliminate moisture from exhaust air, before it is exhausted.

**Based on spraying rate of approx. 3 gal. per hour per ft. length of booth.*



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Dept. C

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DESPATCH OVEN COMPANY

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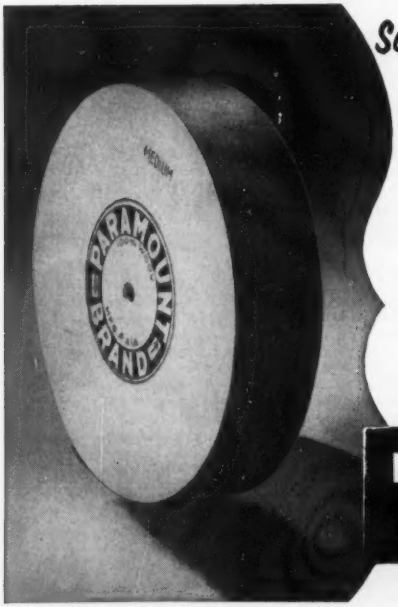

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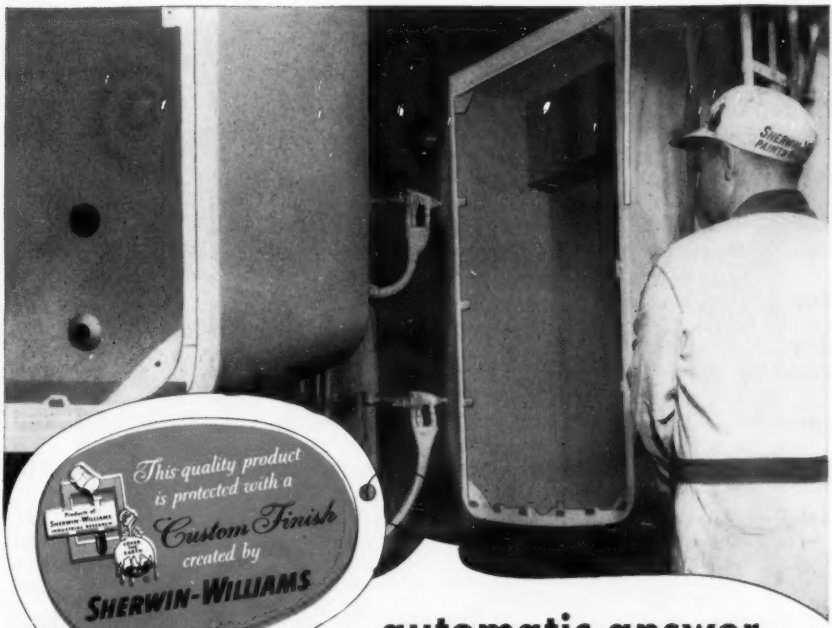

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Products Finishing Magazine, Cincinnnati, Ohio 361
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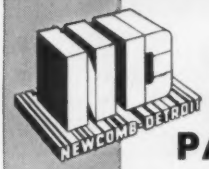

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gets a better, more uniform, paint job on chassis as production is increased and finishing costs are cut substantially with

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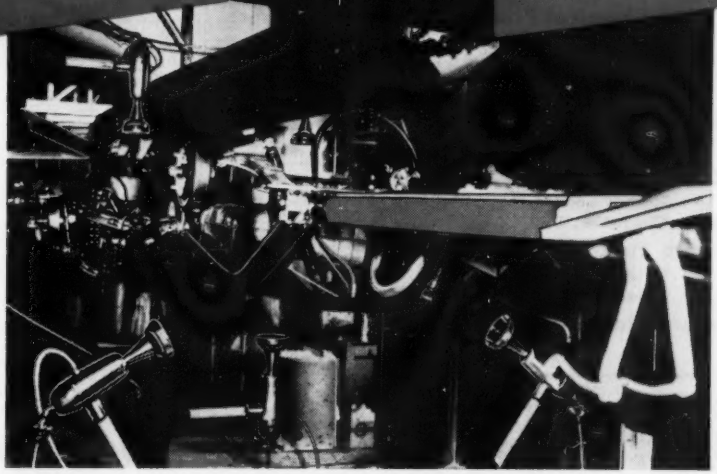

● When Studebaker Division, Studebaker-Packard Corporation switched to Ransburg No. 2 Process of Electrostatic Spray painting on their automobile chassis, paint mileage was increased 9 times.

By simply putting the paint where it's supposed to go, Studebaker cut daily paint consumption on the chassis production line from 14½ drums to 1½ drums. And, still they are painting 6 more chassis per hour with the No. 2 Process.

In addition to getting better, more uniform coverage with the asphalt-type coating, paint and labor costs were cut 70¢ per chassis. In eliminating the former set-up with 2 water wash booths and 12 automatic spray guns, they save nearly 1000 square feet of badly needed floor space.

Another on-the-job-example of the unmatched efficiency of the Ransburg No. 2 Process in which quality of the work is improved . . . AT LESS COST!

** Studebaker also uses the Ransburg method to apply a heavier and more uniform primer surfacer on automobile bodies.*

Whatever your product—large or small—if your production justifies conveyorized painting, it's possible that one of the Ransburg electrostatic processes can do the job better, with substantial savings to you. We'll be glad to tell you about complete Ransburg services. Write to Dept. P.

Ransburg ELECTRO-COATING CORP.

Indianapolis 7, Indiana

RANSBURG

list of exhibitors

Firm	Booth No.
J. J. Siefen Co., Detroit, Mich.	346
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BIAS SISALWEEV

FULL DISC SISALWEEV

BINDERIZED SISALWEEV

SISALIN SECTIONS

HANSON-VAN WINKLE-MUNNING COMPANY

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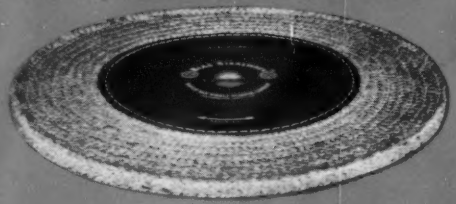
the complete line of

bias sisalweev, full disc sisalweev, binderized sisalweev, sisalin sections

Produced from top grade sisal fibre, H-VW-M Sisalweev Sections represent a step forward in cutting and polishing wheel efficiency for severe operations on drawn, stamped, or cast ferrous and non-ferrous metals.

With a broad range of adaptability to many polishing and buffing room operations, they are responsible for increased production and substantial savings in time and operating costs. Oil-impregnated sisal cloth, tightly woven and heavily compressed in the manufacturing process, is the supple and sturdy backbone of all sisalweev sections. Two styles are available—bias cut and full disc.



Bias Sisalweev Section with fibre-board center.

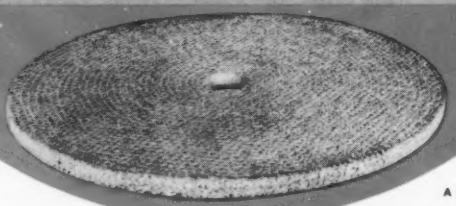
BIAS SISALWEEV* SECTIONS

An improved product, these sections have a longer life and provide more even finishes as a result of their special construction. The sisal cloth used in their makeup is cut *on the bias* and sisal fibres emerge at the contact edge of the buff at approximately a 45° angle. The other end of each strand is anchored deep in the hub of the section. Wearing evenly, this design outlasts any other for heavy-duty cutting.

Each section has its own sturdy fibre-board center —no special hubs or flanges are required. Sections are approximately 3/8" thick, made from 8 plies of sisal fabric. Outside diameter sizes are 12", 14", 16", and 18", with sewing spacings of 1/8", 1/4", and 3/8".

Centers are available 5" or 7" in diameter.

The sewing process is of primary importance in developing this long-wearing product. Extra-heavy thread is used and sections are sewed under great tension. The outside row of stitching is made close to the periphery to inhibit fibre separation.



A Full Disc Sisalweev Section showing the solid sisal construction.

FULL DISC SISALWEEV SECTIONS

Presenting a mass of strong, abrasive, and tough fibre ends, the contact surface of Full Disc Sisalweev provides an excellent cutting medium where difficult buffing conditions are involved. The thread stitching, which functions as a binding agent for the layers of fibre, is sewed spirally from the very edge of the arbor hole to within approximately 1/8" of the periphery. A latex treatment can be provided which anchors individual fibres, extending service life.

Full Disc Sisalweev Sections are made in all diameters from 6" to 24". Standard thickness is 3/8". Sewing spacings range from 1/8" to 1/2".

H-VW-M Bias and Full Disc Sisalweev sections are designed to be used with H-VW-M compounds for best results. Detailed information regarding the best type of compound for specific operations will be supplied on request, or ask for Bulletin Co-102.

*U. S. Pat. No. 2,642,706

Sisal Buffs

BINDERIZED**
SISALWEEV SECTIONS

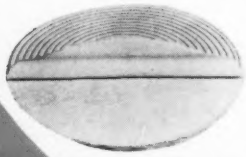
Binderizing is the unique H-VW-M impregnation applied to various buffing tools, increasing their service value by an average of 30%. The entire buff section is thoroughly impregnated with the same binder materials used in buffing compounds.

Applied to either Bias or Full Disc Sisalweev Sections, Binderizing produces a number of outstanding results in addition to increasing their durability. Through this new H-VW-M process, the relatively low affinity of sisal fibre to compound has been greatly increased, improving composition adherence and saving on excessive re-applications of compound during use. "Breaking in" time is eliminated. The strength and suppleness of the fabric is improved with this internal lubrication and the operation is cooler and the cutting deeper.

Binderized Bias and Full Disc Sisalweev Sections can be used in every application for which untreated sisal buffs have been designated, and with all of the advantages and savings which have been outlined. In addition, more severe cutting jobs can be undertaken because of the nature of the improved product. The range of adaptability of Binderized sisal buffs is therefore much broader, emphasizing their long-term economy.

**Patent pending

SISALIN SECTIONS***
the combination of buffing and polishing wheel



Sisalin Section showing muslin ply and sisal ply, alternated.

Used in finishing articles made from drawn, stamped, or cast ferrous and non-ferrous metals. Particularly well suited for buffing steel surfaces before nickel and chrome plating, and equally efficient at high or low speeds. A special treatment, #30, can be added for improved stiffness and cutting property. Available diameters range from 6" to 24" with 1/8"; 1/4", 3/8" or 1/2" sewing. Sections are 3/8" thick.

***U. S. Pat. No. 2,168,985

When ordering Sisalweev or Sisalin Sections, specify:

1. Outside Diameter
2. Thickness
3. Arbor Hole
4. Spiral Sewing (1/8", 1/4", 3/8", 1/2")
5. Diameter of Fibre-board Center (Bias Sisalweev only)

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Chrome Spray Floats
Cleaners
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Conveyors, Semi-Automatic
Cooling Coils
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Felt
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"Granodine" application on welded 54" Hub for Aeromaster 6-bladed 22-foot Cooling Tower Fan.

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How are these figures possible? These companies and many others are checkmating rising production costs by utilizing the efficient operation of Jensen PAN - L - HEAT Ovens.

Completely different, patented construction principles of Jensen Infrared Ovens have reversed cost curves, have caused production curves to soar in finishing plants in every industry.

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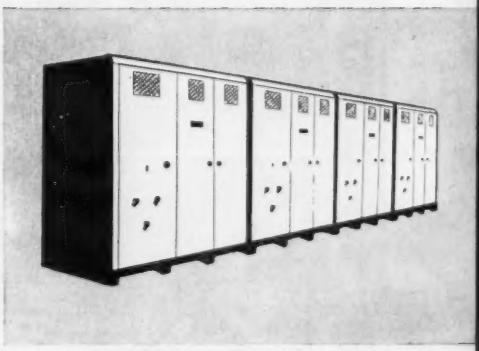


THIS "BIG BROTHER" of the new plater delivers d-c for anodizing operations.

On Display at Industrial Finishing Exposition

Nickel Plating Processes

The Electroplating Division of The Harshaw Chemical Co., Cleveland, Ohio, will have a display in Booths 460 and 462.

The display will feature two Harshaw bright nickel plating processes, Perglow and Nubrite, the characteristics of which will be demonstrated at the booth.

Outstanding features of these plating processes are stated to be: high brightness with thin deposits; good color performance in applications where little or no basis metal finishing is done prior to plating; and excellent leveling characteristics.

For further data circle No. 1 on Reader Service Card inside back cover.

★ ★ ★

Copper Anodes

American Brass Co., New York, N. Y., will occupy Booth No. 378. Anaconda "Plus-4" anodes, in both sheet and oval forms, and specimens of corroded anodes will be displayed. Advantages of these phosphorized copper anodes — even anode corrosion, low scrap loss, limited sludge formation, and smooth deposits will be shown.

Samples of parts formed from "Formbrite" metal also will be displayed. This drawing brass is available in sheet and strip form, and is an excellent metal for press room products, where its fine grain minimizes the subsequent finishing operations necessary to produce products with a high lustre.

For further data circle No. 2 on Reader Service Card inside back cover.

★ ★ ★

Hot Spray Equipment

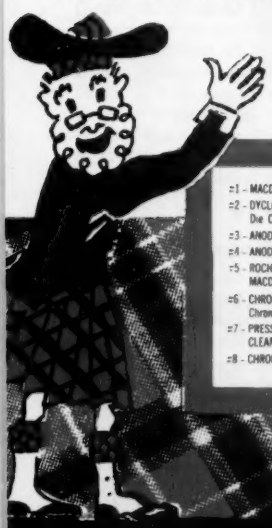
The Spee-Flo Co., Houston, Texas, Booth 357, will feature a new line of all-electric hot spray heaters. The absence of coils and gear pumps in a unique maintenance-free design contributed to expansion of the line of hot spray equipment which is now being sold by Spee-Flo.

All Spee-Flo models will be shown and the principle of hot spray demonstrated with an operating display.

For further data circle No. 3 on Reader Service Card inside back cover.

SPECIALTIES for all METALS

MACDERMID BRIGHT COPPER Plating Process. CHROMETEX nickel activator prior to chrome plating. Alkaline Zinc Stripper. Acid Additive for pickling solutions. METEX FILTER POWDER. Phosphoric acid cleaners and deoxidizers. Materials for chemically machining aluminum. Plating and stripping processes for printed circuits. Acid dips for Pewter. ROCHELTEX additive for all cyanide copper solutions. Paint and carbon removers. Rinsing aids to prevent staining and assist water shedding. Stainless steel cleaning and pickling cycles for chromium plating. Burnishing and pickling aids to remove scale from stainless.



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#1 - MACDERMID METAL FINISHING COMPOUNDS
#2 - DYCLENE "E" - Reverse Current Cleaner for Die Castings
#3 - ANODEX 61X - For Cleaning Buffed Copper
#4 - ANODEX - Reverse Current Cleaner for Steel
#5 - ROCHELTEX - For Copper Plating MACDERMID BRIGHT COPPER PLATING PROCESS
#6 - CHROME RESISTEX - For Cleaning Prior to Chrome Plating
#7 - PRESSURE SPRAY WASHING MACHINE CLEANERS
#8 - CHROMETEX - Nickel Activator
#9 - METEX ACID ADDITIVE
#10 - METEX ZINC STRIPPER
#11 - METEX DURAFOS - Phosphate Coating
#13 - THE ALUMETEX PROCESS - For Electroplating on Aluminum
#14 - TROXIDE - Dry Acid Pickling Salt
#15 - BLACKMAX SALTS - Black Oxidizing Salts for Steel
#20 - METEX DB ACID ELECTROLYTIC STRIP
#21 - MACDERMID ALUMINUM BRIGHT DIP
#23 - SOLVENT EMULSION CLEANERS
#24 - COMPOUNDS FOR FINISHING ALUMINUM
#25 - DEOXIDEX - For Cleaning Aluminum for Spot Welding
#26 - MIRROCU - Chemical Copper Polish
#27 - PHOSPHOTEX - Zinc Phosphate Process
#28 - METEX FILTER POWDER
#29 - METEX PAINT STRIPPER T-19
#30 - METEX STRIP AID - For Immersion Stripping of Copper and Nickel
#31 - METEX 157 - Phosphoric Acid Cleaner
#32 - MIRROFE - Chemical Steel Polish
#33 - METEX M-600 - Alkaline Smut Remover and De-ruster

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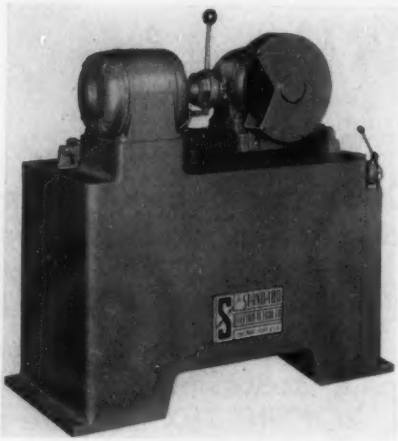


Buffing and Polishing Machinery

The Standard Electrical Tool Co., Cincinnati, Ohio, Booth 450, will exhibit the Automatic Cycle High Production Lathe shown in the accompanying photograph.

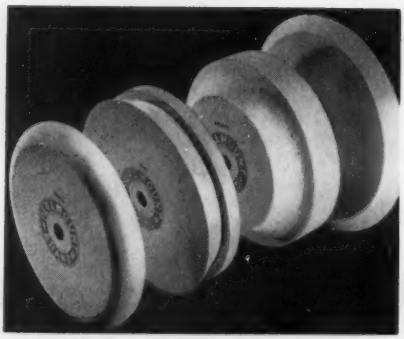
Designed primarily for deburring both face edges of gear or sprocket teeth simultaneously with the use of two 12-inch diameter brushes spaced for contact with opposite radii of the gear, it is suitable for work from 3 to 10 inches in diameter.

The lathe is so designed that the wheel head automatically traverses to the starting position, with wheel head and work motors instantly stopping, upon the completion of each deburring cycle. Each cycle automatically reverses wire brush rotation, giving longer brush life.

Other equipment which will be displayed includes infinitely variable speed buffers, 1 h.p. to 7½ h.p., a direct drive buffing and polishing lathe, and a speed lathe.

For further data circle No. 4 on Reader Service Card inside back cover.

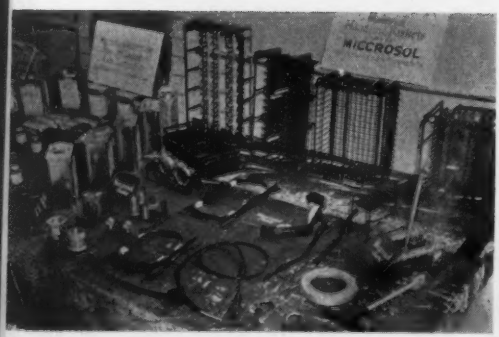
★ ★ ★



Felt Polishing Wheels

Bacon Felt Company, Taunton, Mass., Booth 315, will feature a display of Paramount Brand felt polishing wheels. Bacon Felt supplies a full range of felt wheels for metal finishing in nine degrees of hardness, ranging from extra soft to rock hard, in diameters from 6 to 24 inches and face widths ranging from ⅛ inch to 6 inches. In addition, wheels to custom specification are available. Sheet felts are supplied in a choice of five densities ranging from extra soft to extra hard, in Fine Spanish, Spanish, Mexican, and Coarse Mexican grades. For further data circle No. 6 on Reader Service Card inside cover.

★ ★ ★



Plating Rack Coatings

Michigan Chrome and Chemical Company, Detroit, Michigan, Booth 349, will feature a display of rack coatings and stop-off materials supplied by the company for use in the electroplating field. Miccrosol plastisols and typical applications will be shown. Materials handling baskets coated with this material, used for handling of highly finished parts will be demonstrated.

Miccropeel, a peelable stop-off lacquer, will also be on display. This material may be used in all plating cycles to hold a hairline demarcation. For further data circle No. 7 on Reader Service Card inside back cover.

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on display at exposition . . .

Circular Chrome Plater

On display in the Lasalco Booth, No. 342, will be a high current density, continuously-moving cathode Circular Chrome Plater.

The production capability of this machine is up to 3,290 pieces, 3 inches long, per hour at 23 seconds. Minimum output is 530 pieces at 2.39 minutes. Alternate slower drives are available for heavier plating.

Other features of the Circular Chrome Plater are fully automatic unloading, and one-man loading.

The removable sectionalized cover of plastic, plus an easy-to-raise driving mechanism and cathode wheel give quick access to coils and anodes. Any parts falling into the tank are instantly recoverable.

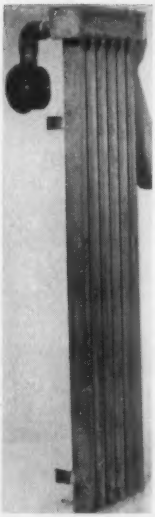
Also featured in the Lasalco booth will be a Utility Barrel Plater equipped with a high temperature plastic cylinder.

The cylinder is of hexagon shape, 9 by 15 inches in diameter, and is equipped with a single "drop-in" door.

For further data circle No. 9 on Reader Service Card inside back cover.

★ ★ ★

Immersion Heaters

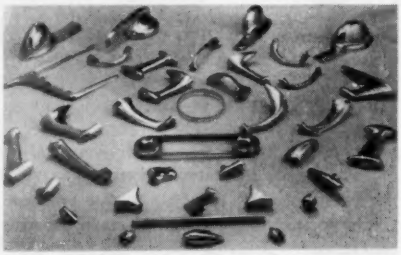


Glo-Quartz Electric Heater Co., Inc., Willoughby, Ohio, Booths 363, 364, will display the metal sheathed immersion heater shown in the accompanying photo. Also on display will be transparent and translucent fused quartz immersion heaters; steel and stainless steel immersion heaters; copper, lead, and impervious graphite immersion heaters; and a complete line of small laboratory type electric immersion heaters, of quartz and metal sheath. Controls will be displayed, including thermostats, a time switch, and a magnetic contractor. Some heaters will be in operation.

For further data circle No. 8 on Reader Service Card inside back cover.

Bright Copper Process

Smoothex, Inc., Cleveland, Ohio, will feature a display of a variety of parts plated with the Smoothex Bright Copper Process in Booth 483. Many desirable features of this process will be demonstrated. Deposition is rapid, control is



relatively simple, and the process is adaptable for both large and small scale production, the manufacturer states.

The process is said to eliminate copper buffing, producing a bright deposit immediately from a Rochelle cyanide solution.

For further data circle No. 10 on Reader Service Card inside back cover.

Why the Balanced Stability of all-purpose TRICLENE® D

(Trichlorethylene)

means better vapor degreasing for you

Du Pont's exclusive combination of stabilizers gives you a solvent with *rugged resistance* to *all* major causes of solvent deterioration—light metal chlorides, heat, light, air and acidic compounds.

Result: New "Triclene" D keeps its original high purity longer . . . continues giving you *brighter cleaning* job after job—distillation after distillation.

"Triclene" D gives you *new operating economy*, too. This new Du Pont solvent contains no salt-forming inhibitors to stain or etch delicately machined metal parts. You have fewer time-consuming shutdowns for degreaser cleanout. Operation is trouble-free and chemical control of solvent is greatly simplified.

And don't overlook the *extra convenience* of using "Triclene" D—the first truly all-purpose solvent for vapor degreasing. No matter how many different metals you clean, or how many different kinds of parts,—this *one* solvent can do any degreasing job quickly and thoroughly.

The balanced stability of "Triclene" D gives you *extra solvent durability*, *extra operating economy*, *extra versatility*. And it costs no more to get this new high in cleaning efficiency!

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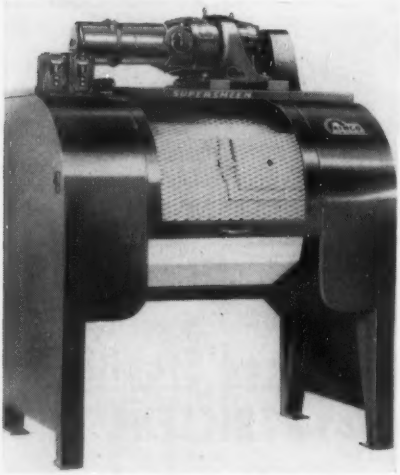


Deburring and Finishing Equipment

In Booth 430, the Almco Division of Queen Stove Wks., Inc., Albert Lea, Minn., will feature barrel finishing equipment in actual operation. The machine shown in the accompanying photograph, model DB-200, is one of the machines in the Supersheen line of deburring and finishing equipment which will be exhibited. Also shown will be the DBF-200 fixture machine, which was designed for special barrel finishing problems, and Models DBO-1-A and DB-50 barrel finishing equipment.

Some of the features available on Almco finishing equipment include barrels with neoprene linings, which prevent wear on the drum itself and cushion certain types of parts, as well as allowing the use of corrosive materials; a positive magnetic brake and a forwarding and reversing switch, allowing the barrel to be "inched" into position; and roll-a-way perforated hood and cam operated door, allowing for easier operation.

For further data circle No. 11 on Reader Service Card inside back cover.

★ ★ ★ ★ ★

Metal Finishing Process

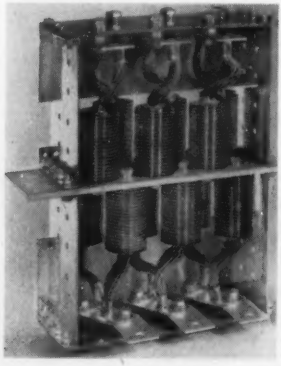
A miniature automatic machine simulating a new metal finishing process will be a feature of the display in Booth 352, exhibited by the Pennsylvania Salt Manufacturing Co., Philadelphia, Pa.

This equipment was designed for experimental purposes and demonstrates under actual working conditions, a complete finishing cycle including precleaning, etching, anodizing and hot water sealing with appropriate rinses. The machine is completely automatic. Aluminum panels enter the machine with a bright finish and complete the process with a satiny etch protected by an anodized film.

Also to be featured in the exhibit will be a new cleaning cycle for use on copper and steel prior to plating. This process employs a soak cleaner, an electrocleaner and inhibited acid.

For further data circle No. 12 on Reader Service Card inside back cover.

★ ★ ★ ★ ★



Germanium Rectifier

The Sel-Rex Germanium Rectifier will be among the plating equipment and materials being displayed by Bart-Messing Corp. in Booths 325-327. The Germanium cell shown, measuring 14 inches high has a rated capacity of 1500 amperes at 36 volts. Such cells are completely sealed and have unlimited life. Standard models from 500 to 50,000 amperes capacity are available in either forced air or completely water cooled design.

Bart-Messing will also display Bright Rhodium Salts, Bright Silver Sol-U-Salts, a Bright Gold Process, and the Jet Plater, a compact small volume complete plating unit. Several models of Sel-Rex Double Duty plating filters will also be shown.

For further data circle No. 13 on Reader Service Card inside back cover.

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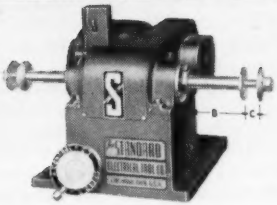

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Bench Model

Standard Buffers and Polishers are superbly engineered for top production. "Speedial" control lets you choose speed between 1500 and 3000 RPM *instantly*. Buffing, polishing, coloring to a uniform finish by maintenance of constant peripheral speed.

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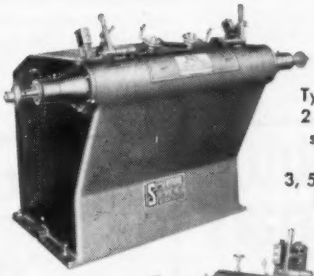
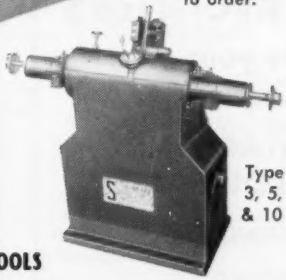


Type R2V with 2 independent spindles and motors. 3, 5, 7½ & 10 HP. Larger sizes to order.



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BUFFERS — POLISHERS

on display at exposition . . .

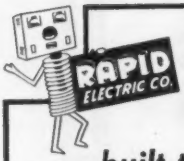
Polishing and Buffing Lathe

The equipment shown (left) is a Hammond Model 7-VRO Variable Speed Polishing and Buffing Lathe, equipped with two Model 6R abrasive belt backstands and a Hammond Cyclone Duskolector. This setup will be displayed in the booths 370-371, Hammond Machinery Builders, Inc., Kalamazoo, Mich.

This unit is frequently arranged so that one side of the machine can be used for polishing and the other for buffing. An alternate arrangement would be to use both sides for buffing, in which case the backstands would not be required.

Suitable for a wide range of polishing and buffing work, the spindle overhang of 8 inches permits handling of bulky parts without base interference. Spindle speeds are instantly changed, while the motor is running, by turning a dial which raises or lowers the motor and causes the movable disc on the variable slide motor pulley to slide laterally, thereby increasing or decreasing its pitch diameter and changing spindle speed.

For further data circle No. 14 on Reader Service Card inside back cover.



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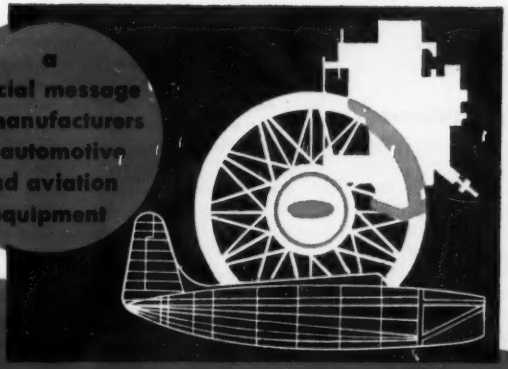

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IRIDITE®

Here's a finish for non-ferrous parts that gives high corrosion protection, a firm and lasting base for paint or showroom sparkle . . . yet at low material and production costs. And, you can easily "Touch-up" scratches, repairs, welds, etc. on light metal parts! Here's Iridite . . . and here's how you can use it:

ON ZINC AND CADMIUM you can get highly corrosion resistant finishes to meet any military or civilian specifications and ranging in appearance from olive drab through sparkling bright and dyed colors.

ON COPPER . . . Iridite brightens copper, keeps it tarnish-free; also lets you drastically cut the cost of copper-chrome plating by reducing the need for buffing.

ON ALUMINUM Iridite gives you a choice of natural aluminum, a golden yellow or dye colored finishes. No special racks. No high temperatures. No long immersion. Process in bulk.

ON MAGNESIUM Iridite provides a highly protective film in deepening shades of brown. No boiling, elaborate cleaning or long immersions.

AND IRIDITE IS EASY TO APPLY. Goes on at room temperature by dip, brush or spray. No electrolysis. No special equipment. No exhausts. No specially trained operators. Single dip for basic coatings. Double dip for dye colors. The protective Iridite coating is not a superimposed film, cannot flake, chip or peel.

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Plating and Polishing Equipment

Good Luck spinning coins will be Nickel-Lume plated on a model full-automatic conveyor at Booth 209, the Hanson-Van Winkle-Munning Company, Matawan, N. J.

The exhibit will have three main sections.

At the Nickel-Lume and Level-Lume display, give-away coins will be automatically plated on a Hanson-Van Winkle-Munning fully automatic elevator-type conveyor.

Operation of a production-size electroplating and processing conveyor will be another feature of the exhibit. Utilizing the "educated hoist" principle, this fully automatic machine moves racks or plating cylinders through combinations of treatments of various duration. Automatic and versatile features of the conveyor will be illustrated during operation.

Hanson-Van Winkle-Munning will also exhibit products for the metal finishing industry on an island-type display. Spray guns will illustrate spray patterns. A setup of equipment used in applying Liquimatic buffing compound will also be demonstrated.

Other items in this exhibit will include the Binderized Ruff-L-Buff, Biased Sisalweev sections, a germanium rectifier, a dryer of advanced design and new type plating and burnishing barrels. For further data circle No. 15 on Reader Service Card inside back cover.

★ ★ ★ ★ ★

Aluminum Etching Process

A complete, step-by-step process for scale-free aluminum etching will be demonstrated by The Diversey Corp., Chicago 13, Ill., in Booth 109. From the initial removal of oil and surface contamination with Diversey No. 202, this display shows the etching operation using Aluminux and the final de-smutting of finished work with Diversey No. 514. All steps in this process are demonstrated with proper rinse procedures.

Also to be exhibited at the Diversey booth will be the preparation of aluminum surfaces for welding.

The third demonstration to be featured is the ability of Diversey No. 909 non-caustic, all-metal soak cleaner to hold dirt and greases in solution. This test is used to show how No. 909 emulsifies contamination and maintains a free-rinsing solution.

For further data circle No. 16 on Reader Service Card inside back cover.

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FOR ACID HEATING JOBS

G SERIES

FUSED QUARTZ IMMERSION HEATERS

Over 40,000 CLEPCO Fused Quartz Heaters now in service.

Dependable, controlled heat at low operating cost.

Wide range of Standard Sizes for every need.

Only Fused Quartz Heater recommended and sold by all leading plating supply houses.

FOR ALKALINE HEATING JOBS

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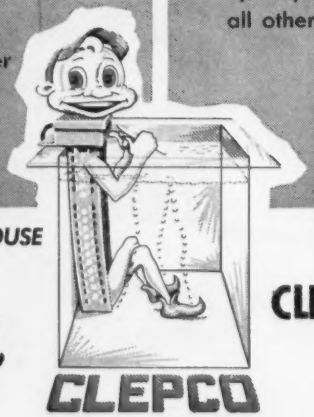
STEEL AND STAINLESS IMMERSION HEATERS

Specify CLEPCO Non - Magnetic Stainless Steel Heaters for your alkaline electro cleaners and bright copper plating tanks.

Specify CLEPCO Steel Heaters for all other alkaline tanks.

All leading Plating Supply Houses can furnish from stock.



SEE YOUR PLATING SUPPLY HOUSE

WRITE US FOR LITERATURE

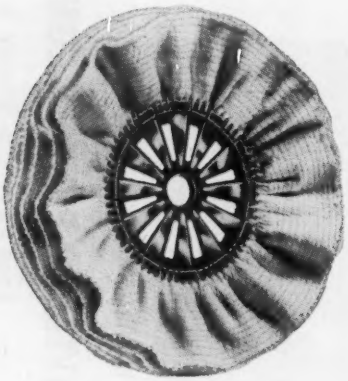
Clepco

CLEVELAND PROCESS COMPANY

1965 EAST 57th STREET

CLEVELAND 3, OHIO

on display at exposition . . .



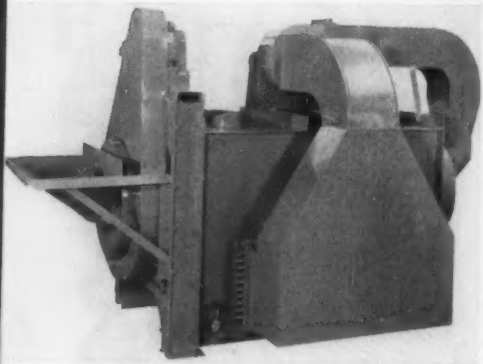
Buffs

Booths 155-157 will contain an exhibit of the buffs produced by the American Buff Company, Chicago, Illinois. Emphasis will be on the Unit (Finger) Sisal, Open Bias Sisal, and the new 200 line of Bias cloth buffs. Representatives of the company will be on hand in the booth to discuss an entirely new process in buffing, and will accept sample parts to be finished by this process.

American Buff Company's research department adapted sisal for use in buffs. This imported rope-like material, and the patented bias design used in construction of the buffs is reported to add longer wear and improve efficiency of the buff.

For further data circle No. 17 on Reader Service Card inside cover.

★ ★ ★



Drying Machine

G. S. Blakeslee & Co., 1844 S. Laramie Ave., Chicago 50, Ill., will feature a spiral drying machine (see photo at left) in Booth 410. This dryer is particularly suited to drying zinc or cadmium barrel plated parts, although it can be used for any cup shaped or screw machine parts that can be tumbled. The dryer being exhibited is steam heated, but units can be designed for gas or electric heat.

Full information on this machine as well as Blakeslee solvent degreasing machines and Blacosolv degreasing solvent will be available at the booth.

For further data circle No. 18 on Reader Service Card inside back cover.

MASKING TAPE
DIE-CUT TO YOUR EXACT SPECIFICATIONS FROM
SCOTCH BRAND
INDIVIDUAL PIECES • ANY SIZE OR SHAPE
For quick, accurate masking operations.
PHONE OR WRITE PANOCO
166 HENRY STREET, STAMFORD, CONN.

OXY-DYZ-ENE
Highest Strength—Possible to Produce
OXIDIZING AGENTS
Sold in LUMP and LIQUID Forms by
Leading Plater Supply Houses
Write for Leaflet and Sample
KREMBS & COMPANY
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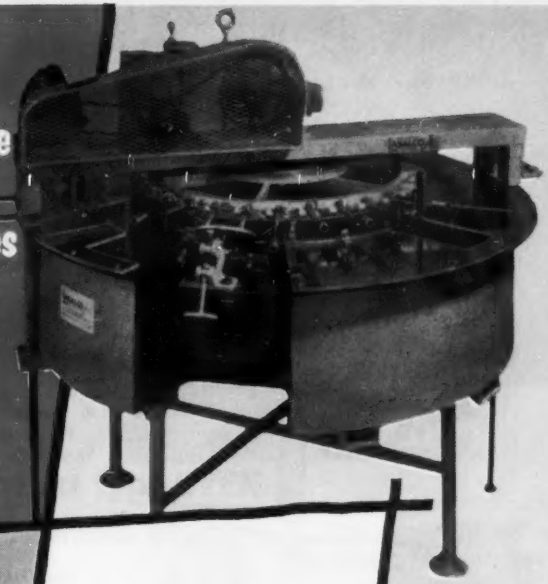


Chrome Plate over 3200 Pieces Per Hour with One Operator!

LASALCO's *New* CIRCULAR CHROME PLATER

Cost-cutter . . . time-saver . . .
production-booster! Consider the unusual extra profit possibilities with this new high current density, continuously-moving cathode chrome plater:

- Exceptionally high output—3290 pieces, up to 3" long, per hour at 23 seconds. Minimum output, 530 pieces per hour at 2.39 minutes. (Alternate slower drives for heavier plating.)
- One-man loading . . . fully automatic unloading.
- No racks . . . no rack upkeep.
- Easily removable sectionalized cover of Plexiglas, plus easy-to-raise driving mechanism and cathode wheel, gives quick access to coils and anodes. Parts falling into tank are instantly recoverable.
- Simple installation requires only electrical connections and exhaust duct. Plater delivered complete, ready to install.

Write Now . . . Get The Facts About This Money-Maker

SPECIFICATIONS

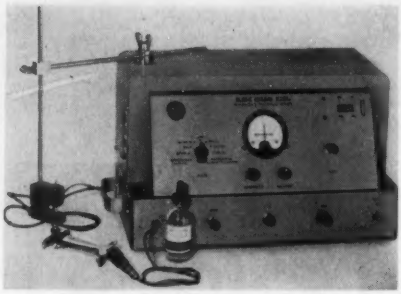
Cathode Wheel Diameters 30". 31 Bronze Work Carriers 3.24" O.C. Effective Plating Travel 68.4".
Inner Anode Diameter 24"; Outer Anode 40".
Center Of Anode To Cathode 4".
Tank Diameter 54"; Depth 14", 3/32" Koroseal Lining.
Solution Capacity 115 Gals. 2" From Top.
Anodes: Flat 16 lb. 6% Antimonial Lead—Outer ⅛" x 9" x 7'5"; Inner ¼" x 9" x 6'4". Anode and Cathode Taps ¼" x 2". Copper Bars.
Bused For 500 Amps.
Heating (Standard): ½" I.D. 6% Antimonial Lead Steam Coil. (Available For Electric Heating.)
Drive: ¼ HP 110/220 1- Phase 60 Cycle AC Motor. Variable Speed Reduction.

LASALCO, INC.

HOME OFFICE
2830 LaSalle St. • St. Louis 4, Mo.
PRospect 1-2990

IN TEXAS
501 West Eighth St. • Irving (Dallas), Tex.
Phone: 3-4921

on display at exposition . . .



Analytical Equipment

The Kocour Company, Chicago, Ill., Booth 442, will display the Electronic Thickness Tester, used for checking plating thicknesses. The unit will be demonstrated in operation.

Test sets for the analytical control of plating, cleaning, pickling and anodizing solutions, and metal identification sets will also be on display. pH meters, pH comparators, and thickness testing by the magnetic, dropping, and anodic solution methods will be exhibited.

Kocour buffing and polishing compounds and Robert's Greaseless Compounds will be shown. Silver plated surfaces will be buffed to demonstrate the greaseless compounds.

For further data circle No. 19 on Reader Service Card inside back cover.

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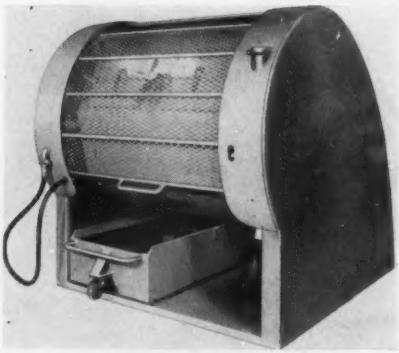

Tumbling Machine

The Grav-I-Flo Corporation, Sturgis, Mich., will display a new model tumbling machine, Model 48-2, in Booths 488-490-491. The machine, designed for use with the Grav-I-Flo tumbling process, features two 48 by 40-inch compartments, giving increased capacity per area of floor space. Compartments are furnished with ½ inch plate unlined or ¼ inch plate rubber lined. Doors have cam locks with manually released safety stops to provide pressure relief. A limit switch on the safety guard cuts off current to stop barrel rotation when the guard is raised. The 220-440 volt, 5 h.p. motor is equipped with a magnetic brake. Water and electrical services are integral with the machine and are available for instant, convenient, connections.

For further data circle No. 20 on Reader Service Card inside back cover.

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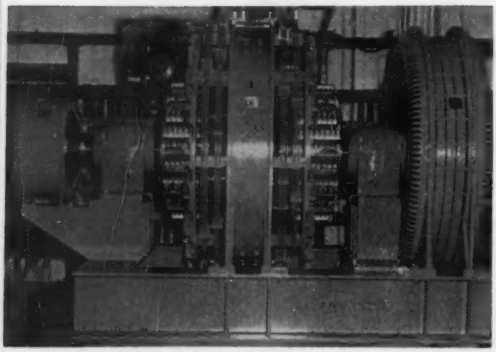


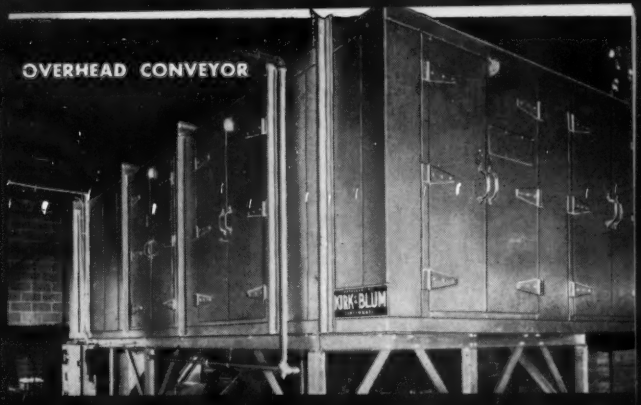
Generator

The accompanying photograph shows a motor generator set of the type to be displayed by the Chandeysson Electric Co., St. Louis, Mo., in Booth 465.

Chandeysson Generators feature built-in voltage regulation and overload protection that ensures against damage from overload.

For further data circle No. 21 on Reader Service Card inside back cover.

BELT CONVEYOR



TRAY

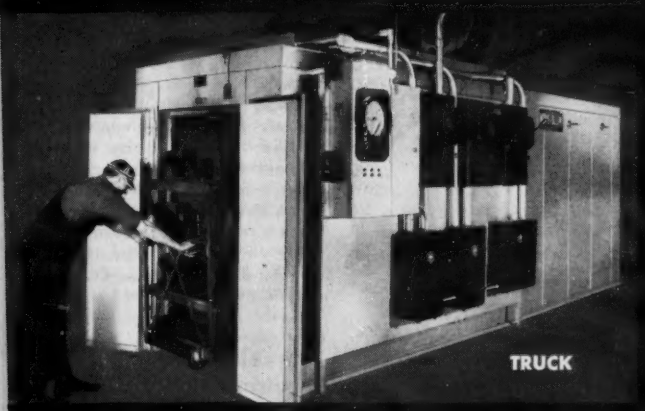
what type OVEN do you need?

KIRK & BLUM
INDUSTRIAL OVENS

Your oven needs . . . large or small, batch or conveyorized production, for drying, baking or dehydrating . . . can be filled by KIRK & BLUM.

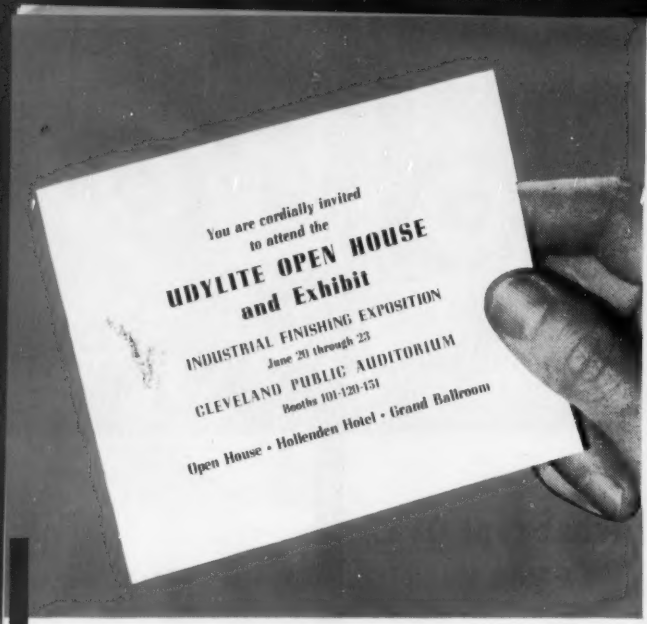
Compactly designed and expertly engineered to meet specific requirements, these typical installations show the wide range of KIRK & BLUM experience over more than 48 years. Often, ovens up to freight car size are shipped assembled, ready to operate.

Put this skill and experience to work on your industrial oven problem. For complete information and booklet, write: The Kirk & Blum Mfg. Co., 3116 Forrer St., Cincinnati 9, Ohio.



TRUCK

KIRK & BLUM
INDUSTRIAL OVENS



YOUR PERSONAL INVITATION

Again, this year, Udylite will entertain at an Open House during the Industrial Finishing Exposition. For your convenience we have reserved the Ballroom of the Hollenden Hotel.

Here, only two short blocks from the Cleveland Public Auditorium, you can relax in spacious, pleasant, air conditioned surroundings after a hard day at the show.

Plan to make the Udylite Open House your headquarters after the show. Meet your friends here and enjoy the soft music and light refreshments.

Here is the Open House schedule:

MONDAY, JUNE 20
4:30 p.m. to 8:30 p.m.
Cocktails

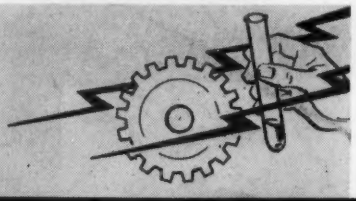
TUESDAY, JUNE 21
4:30 p.m. to Midnight
Cocktails
Coffee at 10 p.m.

WEDNESDAY, JUNE 22
4:30 p.m. to 8:30 p.m.
Cocktails

THURSDAY, JUNE 23
4:30 p.m. to 8:30 p.m.
Cocktails
10:00 p.m. to 2:00 a.m.
Coffee at Midnight

WORLD'S LARGEST PLATING SUPPLIER

THE Udylite CORPORATION
DETROIT 11, MICHIGAN



Electro-Polishing Concentrates

Electro-Glo Company, Chicago, Ill., Booth 447, will show before and after exhibits of products electro-polished with Electro-Glow electro - polishing concentrates. Pieces will be copper alloys, stainless steels, carbon steels, and other alloys. A pictorial presentation of operating procedures for these processes, literature, and the products themselves will form the remainder of the display. For further information, circle No. 22 on Reader Service Card inside back cover.

★ ★ ★

Painting Equipment

Binks Manufacturing Company, Chicago, Illinois, Booth 369, will feature an assortment of spray painting equipment and accessories. It will include paint supply pumps, spray guns, oil-moisture extractors, pressure tanks, and compressors. For further information, circle No. 23 on Reader Service Card inside back cover.

★ ★ ★

Cleaners and Cleaning Machinery

Detrex Corporation, Detroit, Michigan, occupying Booths 468 and 485, will display machinery and materials for metal cleaning. Included in the display will be degreasing machinery, alkali cleaning machines, "Soniclean" degreasers, and Detrex cleaning compounds. For further data, circle No. 24 on Reader Service Card inside back cover.

★ ★ ★

Barrel Plating Equipment

Highlight of the display sponsored by the Hardwood Line Manufacturing Com-

pany, Chicago, Ill., Booth 305, will be a portable "Lazo" lucite plating barrel. Other equipment for use in electroplating operations will also be on display. For further data, circle No. 25 on Reader Service Card inside back cover.

★ ★ ★

Blackening Processes

The Mitchell-Bradford Chemical Company, Milford, Conn., Booths 344-345, will have a display of various fabricated parts finished by "Black Magic" processes. The products used will be Black Magic Type A, for steel; Black Magic S.S.; Black Magic zinc black; Black Magic cadmium treatment; Black Magic chromate O.D.; and Black Magic chromate bright.

Several other materials useful in finishing metals will be displayed, including cleaners and heat treating salts. For further data, circle No. 26 on Reader Service Card inside back cover.

★ ★ ★

Plating Racks

Standard Plating Rack Co., Chicago, Ill., Booth 318, will display the Erect-A-Rack, a do-it-yourself plating rack, which allows plating racks to be assembled as needed from pre-formed parts. A full range of parts is available, to accommodate any situation. To assemble these racks, the desired contacts are clamped on the spine, moved to the proper spacing, and tightened with a screwdriver. The company's line of standard plating racks and associated equipment will also be displayed. For further information, circle No. 27 on Reader Service Card inside back cover.

ALWAYS DEPENDABLE

When you buy Udylite barrel plating cylinders you get more than good materials—you get the experienced engineering that has made Udylite barrels the best built, longest lasting, most economical barrels on the market. For Udylite barrels are constructed with the characteristics of the materials well in mind—and engineered accordingly.

Along with fine engineering Udylite is in continuous search for materials giving longer life and greater over-all economies in barrel plating. Udylite manufactures barrels of Rubber, Bakelite, Melamine, Lucite and now in turn has developed Tempron Hard Rubber.

Tempron Hard Rubber is recommended as the best plating barrel cylinder material now available, but its characteristics require special construction. Udylite's new construction (patent pending) features interlocking panels and ribs with the added advantage that panels, ribs, rails and cylinder heads are individually replaceable.

Tempron Hard Rubber has greater abrasion resistance, will handle more cleaning and plating solutions at higher temperatures including hot Stannate Tin, and with Udylite's new construction, will take the hard pounding of heavier loads day after day.

It will pay you to investigate Tempron Hard Rubber cylinders. Fill out the coupon below and mail today.

WORLD'S LARGEST PLATING SUPPLIER

We would like to discuss Tempron Hard Rubber cylinders with your sales representative. Please have him call.

NAME

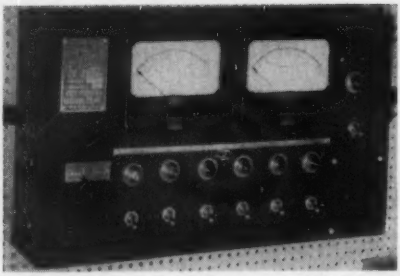
COMPANY

STREET ZONE

CITY STATE

THE Udylite CORPORATION
DETROIT 11, MICHIGAN

on display at exposition



Automatic Rheostat

Unit Process Assemblies, New York, N. Y., Booth 347, will feature an automatic rheostat, used to automatically vary the current in a plating solution according to the load, thus preventing "burning" of small loads. All work is automatically plated at the proper current using this device. Switch setting during loading or unloading of tanks can be eliminated. The device can be operated from a remote control panel (see photo), thus permitting one supervisor to control all the tanks and solutions from a central location.

Also on display will be a Periodic Reverse Unit and a new Electronic Thickness Tester.

For further data circle No. 28 on Reader Service Card inside back cover.

★ ★ ★ ★ ★

Chemical Process Equipment

Heil Process Equipment Corporation, Cleveland, Ohio, Booth 373, will feature a display of chemical process equipment and accessories. It will include equipment for the control of corrosive fumes, such as exhaust hoods, ducts, stacks and tank covers, fabricated from steel, lined steel, or plastic; exhaust fans of steel construction with various linings, and an exhaust fan of solid plastic; a fume washer of solid plastic; and an "Air Saver" system of plating tank ventilation in operation.

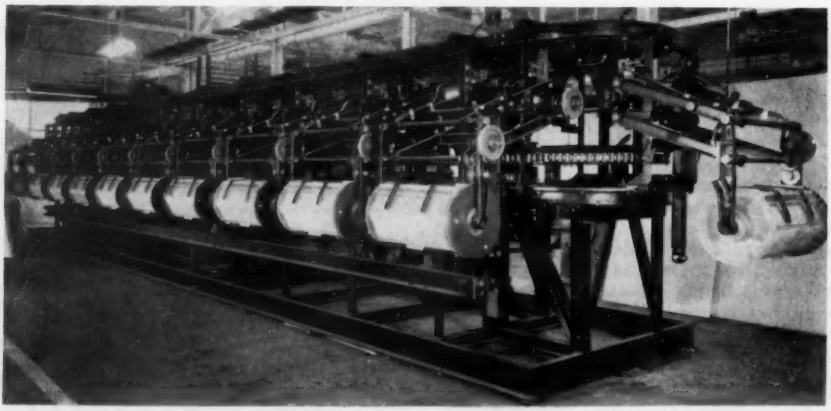
Lined electroplating tanks and heating and cooling units will also be on display. A portable tank for handling acids will be shown. Solid plastic coil guards will be on display with the complete line of "Nocordal" heating and cooling units. A complete line of lead anodes will be shown, along with samples of solid plastic pipe and Carbalt, a product used for exterior protection of acid tanks. For further data circle No. 29 on card inside cover.

★ ★ ★ ★ ★

Plating Machines and Materials

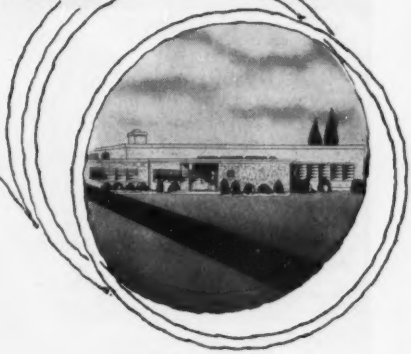
The Udylite Corporation, Detroit, Michigan, exhibiting in Booths 101, 120, and 151 will have a display of automatic barrel plating equipment, rectifiers and other electrical equipment. Also on exhibit will be Udylite plating processes and the supplies used in these processes, including Bright Nickel, Bry-Cad, Bright Zinc and Zero-Mist.

For further data circle No. 30 on Reader Service Card inside back cover.



LOOK to MITCHELL-BRADFORD

FOR LEADERSHIP IN METAL FINISHING



We look forward to seeing you at the Mitchell-Bradford Booth Nos. 344 and 345. This will be an opportunity for you to discuss your blackening, rust preventative, metal finishing and cleaning problems with our capable chemical engineers. Your visit may mean a better product, lowered costs and the solution of knotty production problems for you as it has for many leading manufacturers.

We have just completed and now occupy our new, modern laboratories and plant in Milford, Connecticut. These new facilities will enable us to give the best quality and service that will guarantee trouble-free production. We invite you to visit our new home and see for yourself why Mitchell-Bradford maintains its leadership through constant research, quality control and service.

Beauty and Protection That Puts Your Product Out in Front

A comprehensive study of the application of black oxide finishes has been compiled and is now available in our latest catalog. The study covers Black Magic-Blackening Processes for ferrous and non-ferrous metals; metal cleaners, rustproofing oils and waxes, plating specialties and a complete line of heat treating salts.

Write for your complimentary copy today.

Mitchell-Bradford

THE MITCHELL-BRADFORD CHEMICAL CO.

WAMPUS LANE — MILFORD, CONN.

QUALITY PRODUCTS OF CHEMICAL RESEARCH

HEAVY PRODUCTION
BACKSTAND IDLERS

Universal Model—
Sets on floor; mounts on wall or ceiling.

Features of
BELT MASTER BACKSTAND IDLERS

- *Increased production*—Tracking and belt tension controlled from operating position.
- Saves Belts—Tracking adjustment moves idler pulley from side to side instead of turning the face—avoids twisting and stretching to break the bond.
- Tracks all belt widths, ¼ to 6", perfectly.
- Quick Belt Change. A single motion releases or tightens belt.
- Balanced: 10" idler pulley, 5" wide, with closed ends.
- Grease-packed heavy duty Seal Master ball bearings.
- **Proved on the Heaviest of Heavy production lines.**

Pedestal Base Model—
keeps belt level

Order from your Jobber or write for literature

MATHEU TOOL WORKS
2426A North Clybourn Chicago 14, Ill.

Preplating Transfer Unit

An automatic transfer unit, designed for transporting parts through any number of preplating tanks, with uniform processing time, is among the items of equipment and materials which will be exhibited by the Belke Manufacturing Co., Chicago, Ill., in Booths 355-356. Among the other items to be displayed will be Thinker Boy Plating Racks, which can be assembled from pre-insulated Thinker Boy Rack Members and Tips; and Hi-Density Lead Anodes, which have a fluted design and thus give increased anode area per unit of tank space. Other Belke equipment will be shown on slides.

For further data circle No. 31 on Reader Service Card inside back cover.

★ ★ ★

Emulsion Cleaner

Enthone, Inc., New Haven, Conn., Booths 205 and 207, will feature a demonstration of Emulsion Cleaner 75 in actual operation. Many products finished by Enthone processes will be arranged in a display such that they can be examined closely by visitors. Enthone technical engineers will be on hand to discuss process requirements for attaining such finishes. The remaining portion of the Enthone exhibit space will be used as a conference room for discussing finishing problems.

For further data circle No. 32 on Reader Service Card inside back cover.

★ ★ ★

Liquid Processing Equipment

Booth 220 will contain a display of liquid processing equipment manufactured by the Industrial Filter & Pump Mfg. Co., Chicago, Ill.

Two methods of treating chromium plating wastes will be demonstrated with models of both systems running simultaneously. An ion exchange recovery system will be used to treat a chromic acid solution, and adjacent to it will be a destruction system for chromic acid solution.

A cut-away rubber lined centrifugal pump operating at 1 r.p.m. will be used to demonstrate construction features of pumps manufactured by Industrial Filter & Pump.

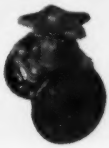
A new model of a horizontal type filter especially designed for treating plating solutions will be operated to demonstrate features of its construction.

For further data circle No. 33 on Reader Service Card inside back cover.

LARGE corrosion PROBLEMS

Perma-Line builds and lines tanks for plating and acid handling.

SMALL corrosion PROBLEMS



Acid - handling valves — rubber and Plastisol lined and plastic type valves.

FIELD corrosion PROBLEMS

Perma-Line

has helped to solve them ALL!

Send for FREE Book . . . "Perma-Line Linings for INDUSTRY"

Perma-Line corrosion and erosion resistant products and services have, for many years, solved corrosion problems in various industries at a reasonable cost.

Our experienced technical staff is prepared to help you solve those corrosion "bottle-necks" that slow down production in your plant or field operations.

Why not consult Perma-Line about your particular corrosion problems? Inquiries given prompt attention.

Perma-Line Corrosion-Resistant Services and Products include:

Plant and Field Installations • Metal and Rubber Fabricated Parts • Tank and Tank Linings • Perma-Coil Heat Exchanger Coils • Ventilation and Exhaust Systems • Pipe and Fittings • Brick and Mortar • Perma-Plugs • Plating Accessories • Anode and Industrial Baskets • Coatings and Paints

Perma-Line PRODUCTS

PERMA-LINE RUBBER PRODUCTS CORPORATION

1753 No. Winnebago Ave. • Chicago 47, Illinois • Tel. HUmboldt 9-2020

on display at exposition

Conversion Coatings

Allied Research Products, Inc., Baltimore, has announced that the full line of Iridite chromate conversion coatings for non-ferrous metals will be on display at Booth 238. The full line includes finishes for corrosion protection, paint base and decorative value on zinc, cadmium, aluminum, magnesium, silver, copper, brass and bronze. Samples of typical finished parts will be displayed and, in addition, the complete line of ARP plating brighteners and chemicals will be represented in the exhibit.

For further data circle No. 34 on Reader Service Card inside back cover.

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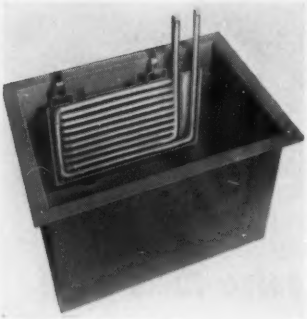


Automatic Plating Equipment

Frederic B. Stevens, Inc., Detroit, Mich., Booths 112, 116, 130, will feature the new Stevens "Little Steve" Automatic Plating and Processing Machine, designed for automatic processing of job shop sized lots. Although small for an automatic machine, this equipment features high production capacity in relation to its size. It will be demonstrated in actual operation.

A Stevens Model MVS Variable Speed Buffing and Polishing Lathe will also be demonstrated.

Information will be available on the Stevadoer Heavy Duty Automatic Plating and Processing Machine, and the Stevens motion picture "Industrial Album" will be exhibited.

For further data circle No. 35 on Reader Service Card inside back cover.

★ ★ ★

Immersion Heater

The Thermo-Panel Division of Dean Products, Inc., Brooklyn, N. Y., Booth 128, will exhibit Thermo-Panel immersion heating.

Dean Thermo-Panels are well suited to the heating and cooling of solutions for electroplating, phosphatizing, degreasing, and metal washing.

These heat exchangers are light weight, easily replaced, and simple to clean. They are available in special shapes such as "U's", "L's" and cylinders, and a wide range of materials.

For further data circle No. 36 on Reader Service Card inside back cover.

★ ★ ★

Thickness Tester

Platers Research Corporation, New York, N. Y., Booth 347, will feature a display of the Handi-Gage plating thickness tester, a pocket sized magnetic thickness tester which serves well as a tester on the line during plating operations. The size and appearance of this gage are similar to the automobile tire gage.

Also on display will be Nickelite barrel nickel brightener. This material is said to increase corrosion resistance of barrel finished nickel to a marked degree.

For further data circle No. 37 on Reader Service Card inside back cover.

Lesson for today: How Fosbond locks paint to metal

Even when the heat's on, the Nesbitt ventilating and heating units in this modern Abington Township, Pa., school keep their smooth handsome finish. Thanks to the Fosbond® precoat, the paint resists the wear-and-tear of small-fry on the rampage . . . as well as the variations in temperature.

Fosbond anchors the paint to the metal. After bonding itself firmly to the metal, the Fosbond coating presents a uniform surface of microscopic "teeth" which lock on the organic finish for lifetime adherence and protection.

Since John J. Nesbitt, Inc., adopted Fosbond, the company has not had one reject for paint adhesion. Cleaning and coating costs have been reduced.

If you use organic finishes on your product, you should know the full story of the Fosbond Process. Investigate the advantages of affixing the Fosbond-Good Housekeeping emblem to your products now.

A free, one-hour survey of your finishing processes may make it possible for you to add more sales-appeal and lasting good looks to your products.

Write: Customer Service Dept., Pennsylvania Salt Mfg. Co., 1084 Widener Building, Phila. 7, Pa.

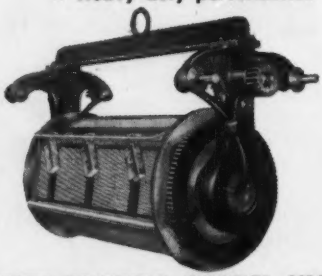
FOSBOND

Pennsalt Chemicals

Pennsylvania Salt Manufacturing Co.

STUTZ
PLATING BARRELS
of High Tensile *PLEXIGLAS*

for: ★ **Production**
★ **Highest possible current**
★ **Heavy duty performance**



STUTZ PLATING BARREL UNIT

of High Temperature Lucite for continuous operation through Alkali Cleaning, Acid Pickling, Acid and Alkaline Plating solutions and rinsing. Largest number of cylinder perforations possible. Our new patented method of dual hole design provides extra small holes previously unobtainable.

STUTZ PLATING BARREL UNIT

Motor Drive Mounted Overhead

Continuous rotation of cylinder from one operation to another, and where a minimum of solution dragout is important. Roller bearing chain drive to absorb load shock.

Write for illustrated literature on our new Portable Plating Barrel.

Manufactured by

GEORGE A. STUTZ MFG. CO.

4410 Carroll Ave. Chicago 24, Ill.

Bright Plating Processes

Lea-Ronal, Inc., Long Island City, N. Y., Booth 472, will display bright plating solutions. Processes that will be shown are Lea-Ronal Bright Copper, a bright high speed copper solution for use on steel or zinc die castings; Lea-Ronal Silver-Glo, for producing mirror-bright deposits; Lea-Ronal Bright Gold Solutions, for decorative and industrial uses; Lea-Ronal Superlevel Bright Acid Copper, an agent for leveling high speed soft, bright acid copper and Lea-Ronal Nickel Gleam, a bright nickel process offering high tolerance to zinc and copper impurities.

A new filter designed especially for the plating industry will also be on display.

For further data circle No. 38 on Reader Service Card inside back cover.

★ ★ ★

Rectifier

Rapid Electric Co., New York 61, N. Y., will occupy Booth 323.

The new Rapid Germanium Rectifier will be featured. The model displayed will show the compact size and high quality design and workmanship of the germanium units.

Also on display will be working Rapid Selenium Rectifiers, both floor and bench models including the new Rapid "Sensing" Rectifier which automatically increases output voltage as tank amperages increase, thus helping to stabilize current density on material being plated in automatic plating operations. The ease of using motorized Inductrol controls will be demonstrated. An automatic programming unit will be shown as well as a complete display of the components of Rapid Rectifiers.

For further data circle No. 39 on Reader Service Card inside back cover.

★ ★ ★

Metal Preparation Materials

Developments in the fields of metal cleaning, phosphate coating, barrel finishing, paint stripping, and paint spray booth water treatment will be demonstrated by Oakite Products, Inc., New York, N. Y. at Booth 426.

Two recently introduced metal conditioning materials will be featured: Oakite Rustripper, the alkaline material that simultaneously removes rust, grease, and certain paints in either hot or cold solutions, with or without current, and with or without cyanide; and Oakite

ACME Automatics

FOR HIGH PRODUCTION at LOW COST on

POLISHING and BUFFING • DE-BURRING
WIRE BRUSHING and MICRO-FINISHING

• Proved performance and dependability in industry for half a century

RECOMMENDATIONS and QUOTATIONS

• We will be pleased to receive blue prints or preferably finished and unfinished samples of the part you contemplate finishing together with detailed information on present finishing operation and production requirements. On receipt of samples and data we will offer recommendations and quotations.

CATALOGS ON REQUEST

ROTARY STRAIGHT LINE SEMI-AUTOMATIC AND SPECIAL *Polishing and Buffing Machinery*

SPECIAL MACHINERY — AUTOMATIC BUFFING MACHINES

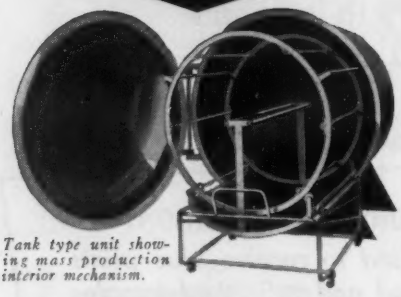
ACME Manufacturing Co.

1400 E. 9 MILE RD., DETROIT 20 (Ferndale) MICH.

Builders OF AUTOMATIC POLISHING AND BUFFING MACHINES FOR NEARLY HALF A CENTURY

New finishing method!

. . . vacuum metallizing with HI-VAC Equipment gives you outstanding speed and economy



Tank type unit showing mass production interior mechanism.

Vacuum Metallizing is an ideal mass production method. It is extraordinarily versatile, applying brilliant surface finishes to a great variety of materials of simple or intricate design.

- **Fast** — up to thousands of items per hour.
- **Economical** — only a fraction of the finishing cost of other processes.
- **Versatile** — a great variety of coatings can be applied on metals, plastics, glass, ceramics, paper, and other materials.
- **Effective** — durable and lustrous metallic finishes.
- **Simple** — easy to maintain and to operate.

Investigate the profitable advantages of vacuum metallizing. Write for brochure 551 and full information to-day.

HIGH VACUUM
Equipment Corporation
349 Lincoln St., Hingham, Mass.

Pickle Control No. 5, a stable liquid material that combines inhibition with a controlled foam blanket. Also shown will be pieces treated with the Oakite CrysCoat Process, embracing both materials and methods for applying zinc and iron phosphate coatings, and Oakite materials for preparing aluminum for painting.

For further data circle No. 40 on Reader Service Card inside back cover.

★ ★ ★

Plating Processes

Promat plating processes will be demonstrated in the Wagner Brothers automatic plating machine, Booths 492, 502, 503, 504. Other Promat processes will be shown in the Grav-I-Flo Corporation Booths 488, 490, 491. Immediately adjacent to these booths, the Promat Division of Poor & Company, Waukegan, Ill., will occupy Booth 500, which will be used as a conference area.

For further data circle No. 41 on Reader Service Card inside back cover.

★ ★ ★

Tin-Nickel Plating Process

Metal and Thermit Corp., New York, N. Y., Booth 332, will display chemicals and anodes for electroplating of tin and tin alloys. A portable tin-nickel plating plant will be used to demonstrate a tin-nickel alloy plating process devised by the Tin Research Institute. The method will be demonstrated in the machine shown in the accompanying photograph.

For further data circle No. 42 on Reader Service Card inside back cover.

Check plating thickness

WITH THE

KOCOUR ELECTRONIC THICKNESS TESTER*

*Anodic Solution Method

6 Simple steps . . . to quick, accurate results

1.

MOUNT THE CELL . . . on the spot to be tested and clip lead wire to specimen.

2.

ADD TEST SOLUTION . . . which corresponds to the type of plating and base metal tested.

3.

PLACE STIRRER IN POSITION.

4.

SET SELECTOR SWITCH to the type of plating to be tested as indicated on panel.

5.

PRESS THE TEST BUTTON to start the test . . . and upon completion the unit shuts off automatically.

6.

TAKE THE READING directly from the counter on panel i.e., 0.0004".

TOTAL TIME . . . *less than* 2 minutes

+ plus these features

- **DETERMINE THICKNESS OF**
  decorative chromium
  heavy chromium
  silver, copper
  tin, brass
  cadmium, nickel
  zinc, lead
  lead-tin alloy
  tin zinc alloy
  on various base metals and materials.
- **WIDE THICKNESS RANGE**
- **DIRECT READINGS**
- **90-95% ACCURACY**
- **TESTS ARE RAPID**
- **VIRTUALLY AUTOMATIC**
- **ELIMINATES HUMAN ELEMENT**

Don't delay! See how the Electronic Thickness Tester can solve your problem. Write for literature today.

KOCOUR CO.

Pioneers in Control for the Plating Industry

4814 S. ST. LOUIS AVENUE
CHICAGO 32, ILLINOIS

SEE US . . . BOOTH 442 . . . METAL FINISHING EXPOSITION IN CLEVELAND

on display at exposition

Model "X" Automatic Plating Machine

Introduction of the new Wagner Brothers "X" Automatic Plating Machine will highlight the display of plating and polishing equipment and supplies manufactured by Wagner Brothers, Inc., Detroit. Booths 492, 502, 503, and 504 will house these displays.

Other equipment being shown by Wagner Brothers includes an automatic loader for use in connection with automatic plating equipment, filtration equipment, and rectifiers.

For further data circle No. 43 on Reader Service Card inside back cover.

★ ★ ★

Testing Equipment

Several pieces of testing equipment will be on display for visitors to view at Booth 203, the R. O. Hull & Company, Rocky River, Ohio. Hull Cell Sets are used for plating bath control. By means of this test, checking and control of factors related to efficient plating can be accomplished.

Also on display will be the Rohco Model C2 Currentester; Rohco 20 XL Cadmium Addition Agent; Rohco 100 Barrel and Rohco 303 Still Tank Zinc Brighteners; Perma-Brite Barrel or Still Tank Zinc Brighteners; Rohco Zinc Purifier; No-Cro Mist, and Rohco Rins-Aid.

For further data circle No. 44 on Reader Service Card inside back cover.

Top Quality WOOD TANKS
begin with TOP-GRADE LUMBER . . .

Over 75 Years Tank Building Experience

. . . the quality of

***Kalamazoo* WOOD TANKS**

results from selected tank-grade lumber and craftsmanship care in construction. Send today for free estimates and suggestions.

***Kalamazoo* TANK and SILO CO.**

633 HARRISON ST. • KALAMAZOO, MICH.

NEW

Barrel Nickel

BRIGHTENER

—can be used with present Barrel Nickel plating solutions

- Faster Plating
- Brighter Finish
- Single Addition Agent
- Hot or Cold Solutions
- Many *plus* Advantages

Information on request

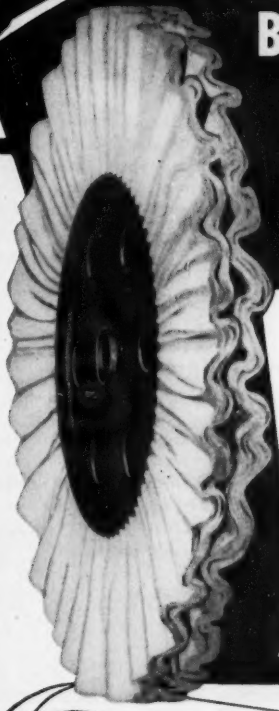
JELCO PRODUCTS

153 East 26th Street, New York 10, N. Y.

LExington 2-3055

New SCHAFFNER BIAS buffs

give more mileage . . .



because

. . . FULLY VENTILATED
. . . COOLER RUNNING
LOW COMPOUND CONSUMPTION
. . . FEWER SECTIONS NEEDED
. . . GIVES LONGER LIFE
. . . LATHE FACED AND BALANCED

Manufactured and controlled in our own new modern up-to-date Buff plant. Can be tailor made for your toughest buffing problem

MADE BY THE MANUFACTURERS OF FAMOUS AND ACCEPTED SCHAFFNER NO NUBBIN BUFFING COMPOSITIONS.

Schaffner
manufacturing company, inc.
SCHAFFNER CENTER • EMSWORTH, PITTSBURGH 2, PA.

CLIP TO YOUR LETTERHEAD

Phone ROsewood 1-9902

Please send me catalogue and complete information:

NOW PRESENTLY USING _____ Name, Manufacturer and Code No. of Buff _____
DIAMETER _____ CENTER SIZE _____
CENTER SIZE _____ ARBOR _____
PLY _____ COUNT _____
NORMALLY I USE _____ SECTIONS PER MONTH _____
NAME _____ TITLE _____
COMPANY _____ STREET _____
CITY _____ ZONE _____ STATE _____

SCHAFFNER AIR-COOLED METAL-CENTER BUFFS ARE PRICED RIGHT • PRODUCED IN ALL DIAMETERS, CENTERS, PLYS AND COUNTS

Cleaners

Wyandotte Chemicals Corporation, Wyandotte, Mich., will feature a display of the use of radioactive soils and a Geiger Counter to show efficiency of cleaning in Booth 236. The display will feature the complete line of Wyandotte products for cleaning, burnishing, phosphatizing, spray booths, and paint stripping.

For further data circle No. 45 on Reader Service Card inside back cover.

★ ★ ★

Corrosion Test Service

A photographic display of facilities for corrosion testing will be featured by the South Florida Test Service, Miami, Florida. Located in Booth 328, photographs of various exposure locations and samples on test to determine the effects of weathering, corrosion, and sunlight on all types of materials and products will be exhibited.

For further data circle No. 46 on Reader Service Card inside back cover.

★ ★ ★

Cleaning Equipment

Booths 320-321 will contain a display of cleaning equipment manufactured by the Circo Equipment Company, Clark (Rahway), New Jersey. Vapor degreasing equipment and solvents as well as ultrasonic cleaning equipment will be included in the exhibit.

For further data circle No. 47 on Reader Service Card inside back cover.

★ ★ ★

Nickel Plating

Several new and novel uses of nickel plating will be shown to demonstrate the versatile characteristics of such deposits in Booth 330, sponsored by the International Nickel Company, Inc., New York, N. Y.

For further data circle No. 48 on Reader Service Card inside back cover.

★ ★ ★

Buffing Compositions

Schaffner Manufacturing Company, Inc., Pittsburgh, Pa., Booth 310, will display buffing compositions, buffs, anodes, grease stick, grip grain, and Schaffner No-Nubbin Buffing Compound.

For further data circle No. 49 on Reader Service Card inside back cover.

NICKELITE

BARREL
NICKEL
BRIGHTENER

cuts brightening costs — concentrated to quadruple strength—shipping weight is cut 275%. You don't ship, store or handle water! No deposits, no carboy returns. A capful is enough for a barrel of nickel.

Platers Research CORPORATION

Visit Booth 347
Industrial Finishing
Exposition
Cleveland
June 15 - 19

59 EAST 4TH ST.
NEW YORK 3, N. Y.

New Singleton "H-T Sincolite" Test Cabinet

Built to meet all U. S. Government Specifications for Accelerated Corrosion Testing

Clear Visibility — "Picture-Windows," front and rear, for wide view. Observe progress during tests without opening lid or handling the specimens. Fog can be controlled visually.

Uniform Accuracy—Users report test results within "10% of absolute duplication." New water-jacket heaters for uniform temperatures throughout. "H-T Sincolite" is non-porous, inert.

Lasts Years Longer—Exclusive Singleton Fusion-Welded "H-T Sincolite"—permanent, no leak seams. No deterioration, no maintenance, won't wear out. The finest at the lowest price!

See it at the Show—Booth 201

The G. S. Equipment Co.

5321 St. Clair • Cleveland 3, Ohio
Endicott 1-0167, 1-3541

Electroplating-- From Spoons to Cannon Barrels

VARIETY is one of the outstanding impressions made by the Simmons Plating Works, Inc., a large electroplating business established in Atlanta, Georgia; variety in the widely diversified articles being processed; and variety in the number of processes that are a part of Simmons routine operations. Finishing of articles in the three Simmons plants ranges from silver plating the finest piece of tableware to hard chromium plating the bores of 90-mm. gun barrels. Metals deposited include chromium, zinc, cadmium, tin, silver, copper, nickel, and gold. (Fig. 1.)

Founded in 1891 by Charles Simmons, an emigrant from Alsace-Lorraine, Germany, the company originally specialized in plating bicycle and typewriter parts. In the late 1890's, the telephone company began installing a few telephones in Atlanta that were finished in gleaming nickel plate by Simmons. This phase of the business continued for 25 years, until the telephone company switched to the black enameled

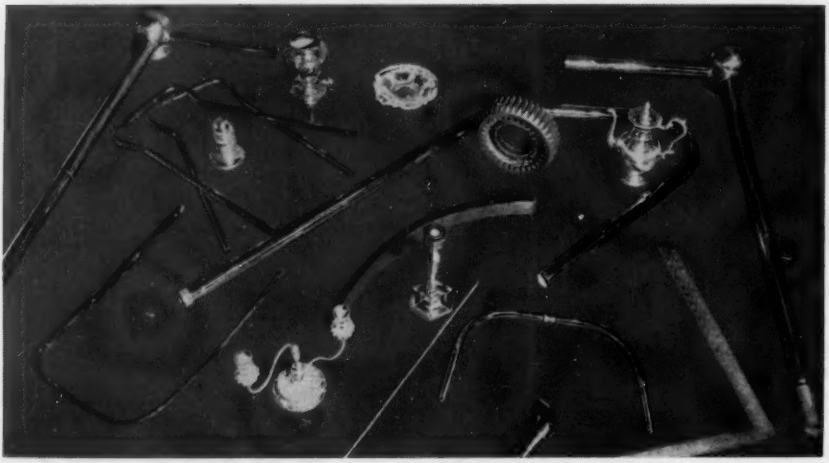


Fig. 1—This display depicts the wide variety of parts and products either bright or hard chromium plated and silver plated at one of Simmons' three plating installations.

instruments now in use.

Simmons now has three plants—one for "job shop" work, the second for production line chromium and nickel plating, and the third for hot dip tinning.

Among the tasks upon which Simmons prides itself is that of restoring damaged and worn silverware to its original beauty. This work is done by skilled silversmiths, and includes casting parts to replace missing segments of articles being refinished, as well as removing the dents, stripping old plated surfaces to the base metal, buffing, polishing, and replating.

A similar department is maintained for repairing and refinishing brass and woodwind instruments. Bent, dented and tarnished musical instruments are restored to their original beauty. The craftsmen in this department are themselves musicians, thus they are qualified to repair as well as test instruments for

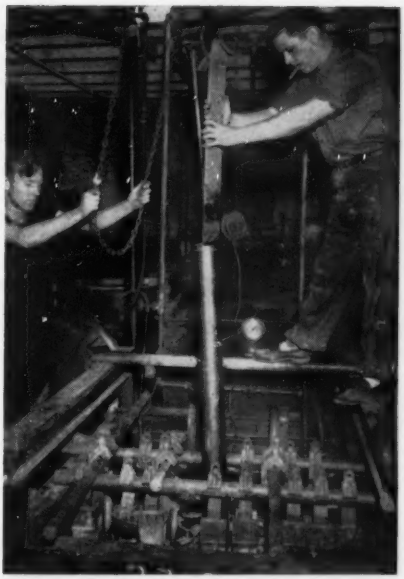


Fig. 2—Hard chrome plating is performed in this 1050 gallon tank. Reclamation and salvage of worn machined parts and equipment are among the uses for this plating process.

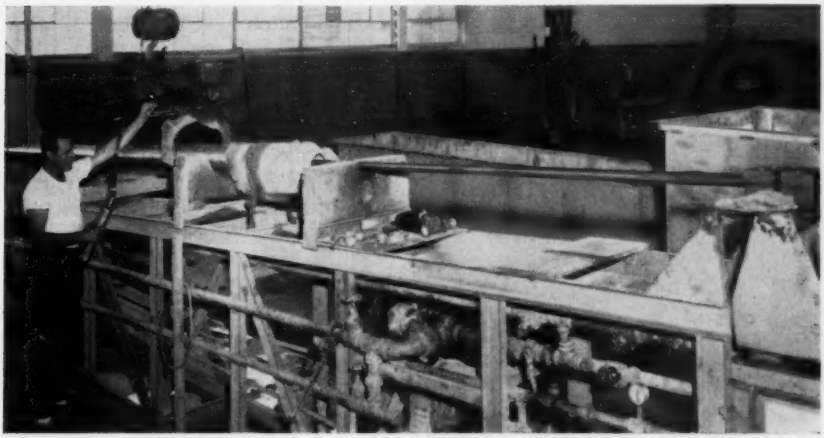


Fig. 3—After degreasing and inspection, gun barrels are wet blasted to clean the interior surface. This specially designed machine uses compressed air and an abrasive grit slurry.

". . . Atlanta's first chromium plating installation, one of the Southland's earliest."

the desired musical qualities. Gold and silver finishes are then applied with a polished or satin effect, as specified by the customer.

In 1927, the firm put into operation Atlanta's first chromium plating installation, one of the Southland's earliest. Chromium plating of automobile parts, such as radiator shells, wire wheels, and headlight visors soon became an everyday operation, a service the company performs to this day for owners of antique cars.

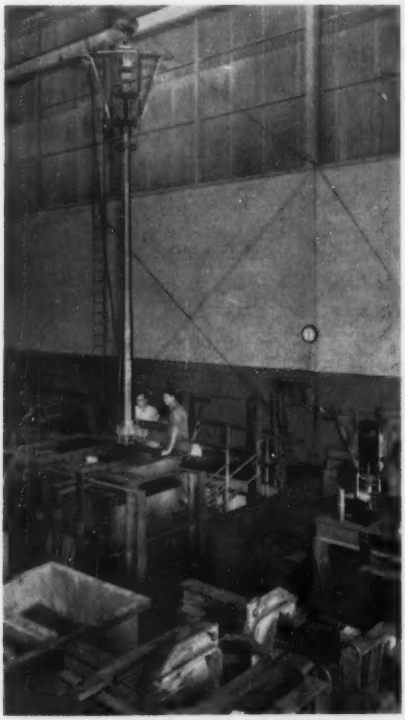


Fig. 4—Microscopic etch of barrels is applied by immersing them in a solution of chromic acid. The vertical, 7500 gallon tank used for this operation extends to the basement.

Simmons plants also specialize in finishing with tin (hot dip and electroplating) such articles as dairy equipment, bakery equipment, and refrigeration equipment, repairing and chromium plating funeral equipment; and maintenance and reclamation chromium plating (Fig. 2).

Equipment and processes used in the various Simmons operations include vapor degreasing machinery; special pickling processes for removing rust or oxides from metal surfaces; sand blast and liquid honing facilities; stripping operations; buffing machines for hand polishing of large parts, and barrel tumbling facilities for burnishing smaller parts in volume; soak cleaning and electrocleaning facilities; and barrel plating machines and tanks large enough to plate gun barrels.

The firm's newest and largest plant, built in 1951, is devoted chiefly to hard chromium plating 90-mm. and 75-mm. gun barrels. A brief description of how Simmons performs this ordnance assignment is presented here.

Shipped in special trucks, these gun barrels, 177 inches long, are unloaded by a rail-mounted crane hoist, and immersed in a tank of mineral spirits to remove a rust preventive coating. After cleaning, the bore of each gun is inspected with a boroscope to detect any visual defects. A second inspection with a star gage follows. This instrument is a

three pointed inside micrometer with an extra long handle, which allows the device to travel inside the barrel.

Next, the bore is wet blasted (Fig. 3) with a slurry of fine abrasive grit for the required period in a specially designed pressure blasting machine. This treatment removes any loose, fine metallic particles.

The gun tube is then transferred to the high bay section of the plant, and moved into a vertical position. Anode and cathode assemblies are installed, care being taken to be sure they are absolutely centered, so as to ensure plating uniformity and avoid unacceptable "offside" conditions.

The barrel is then raised over and lowered into a vertical, 7500 gallon tank, where the gun barrel receives a controlled, reverse current microscopic etch (Fig. 4), in a solution of Diamond chromic acid and a small amount of sulfate. This etch improves the bond of adhesion of the subsequent chromium plate.

Following the reverse current surface preparation treatment, the gun barrels are placed in one of two 7500 gallon chromium plating tanks. Plating takes place at a regulated current density and solution temperature to produce a deposit of the proper physical characteristics.

During this plating operation, the diameter of the gun tubes, which are machined oversize, is reduced 0.001 inch every 20 minutes, the thickness of the plate varying according to the size of the tube. Usually the barrel diameter ranges from 0.012 to 0.014 inch oversize, which means chromium must be deposited to a depth of 0.006 to 0.007 inch, with a tolerance limit of plus 0.002 inch minus zero.

The plating cycle is followed by rinsing in cold water, drying with compressed air at high pressure, removal of anode and cathode assemblies, and dip coating units in an anti-rust solution. This completes the production cycle.

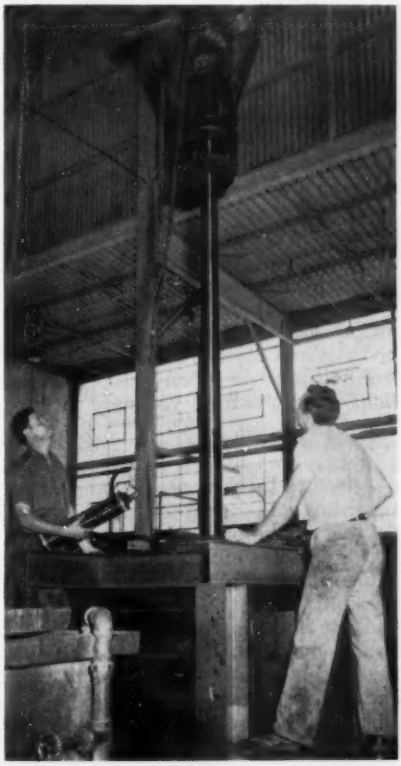
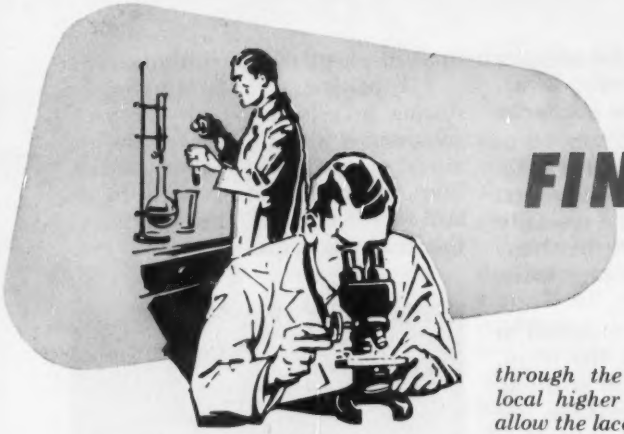


Fig. 5—A gun barrel being lowered into hard chromium plating tank for the final operation in the plating cycle. Simmons was the first plant in the country to plate 75 mm. gun barrels internally on a production scale. (Photos courtesy Simmons Plating Works, Inc., Atlanta, Ga. and Diamond Alkali Co., Cleveland, Ohio.)



FINISHING

Question: *We are trying to locate a lubricant for punching and drilling aluminum extrusions that will either evaporate leaving little or no film, and/or allow us to buff without degreasing. Another possibility would be the use of a buff that wouldn't clog from the oil, or use of a compound that both polishes and absorbs the oil in the buff.*

I will appreciate any recommendations or information you may supply.

W. W. B.

Answer: In response to your letter regarding a lubricant for punching and drilling aluminum, we are referring you to sources of information.

You have mentioned two interesting possibilities in the use of a buff that will not clog from oil, or use of a compound that both polishes and absorbs the oil in the buff. In regard to buffs and buffing compounds, we are referring you to suppliers of those products.

——— *fc* ———

Question: *We plan to manufacture a built-in kitchen oven unit which will have a bright copper plate finish. This finish will, of course, have to be protected by a lacquer. The door will be subjected to temperatures of about 150 deg. F. and the oven vents will come through the door, which may cause local higher temperatures, as well as allow the lacquer to be exposed to cooking fumes.*

What lacquer would you recommend for this application, and what procedure of metal preparation would you recommend for the copper prior to the application of the lacquer?

A. H.

Answer: Thank you for your letter outlining your interest in a bright copper finish on an oven.

Information bearing on this problem is contained in the article, "Antique Copper Finish for Modern Gas Ranges," published in the September, 1953 issue of PRODUCTS FINISHING.

You will no doubt want to fabricate the oven unit from metal which is bright or which is polished prior to plating. The various elements of the unit should be finished by plating in a bright copper solution, information concerning which you may obtain from companies whose names we are forwarding to you.

To protect the copper finish you will probably find it desirable to use a clear, heat resisting synthetic baking enamel. Finishes of this type may be obtained from paint finish manufacturers.

——— *fc* ———

Question: *Please advise as to the simplest way of finding anode and cathode current density in plating solutions.* *F. L. B.*

CLINIC

Answer: I am interpreting your question as to how to find the anode and cathode current density of plating solutions to mean those current densities being obtained while the solution is in operation.

This is simple or complicated depending on your local shop situation.

To find Anode Current Density:—

1. Measure the exterior surface of your anodes and calculate the square inch and square foot total area for all the anodes in the solution.

2. When the tank is in operation read the number of amperes of current from the ammeter on the tank.

3. Divide the ammeter reading in amperes by the number of square feet of anode surface and the result will be the anode current density in a.s.f.

To find Cathode Current Density:—

1. Measure (and estimate) the total cathode or "work" area of parts being plated in any load. This is easy if you have flat, uniform parts. It is hard if you have round or odd shaped parts. But it can be done in either case.

2. While the solution is in operation, read the number of amperes as recorded by the tank ammeter.

3. Divide the ammeter reading in amperes by the cathode area in square feet. The result will be the cathode current density in a.s.f.

A far more difficult determination is to estimate in advance the lowest possible or highest possible anode and cathode current density obtainable in any particular solution. Actually, this can be done only by experience, but it is a most important element of plating solution operation. Some recommendations concerning the cathode current density which may be expected in various solutions are contained in the book, "Principles of Electroplating and Electroforming," which is described on page 131 of the January issue of PRODUCTS FINISHING.

fc

Question: *I wish to locate a supplier, and also a company who applies gold and silver lacquer.*

I refer to the gold-like finish found on many jewelry boxes, fishing tackle and metal products. This finish actually looks like gold.

Any information you can furnish will be appreciated.

G. W. W.

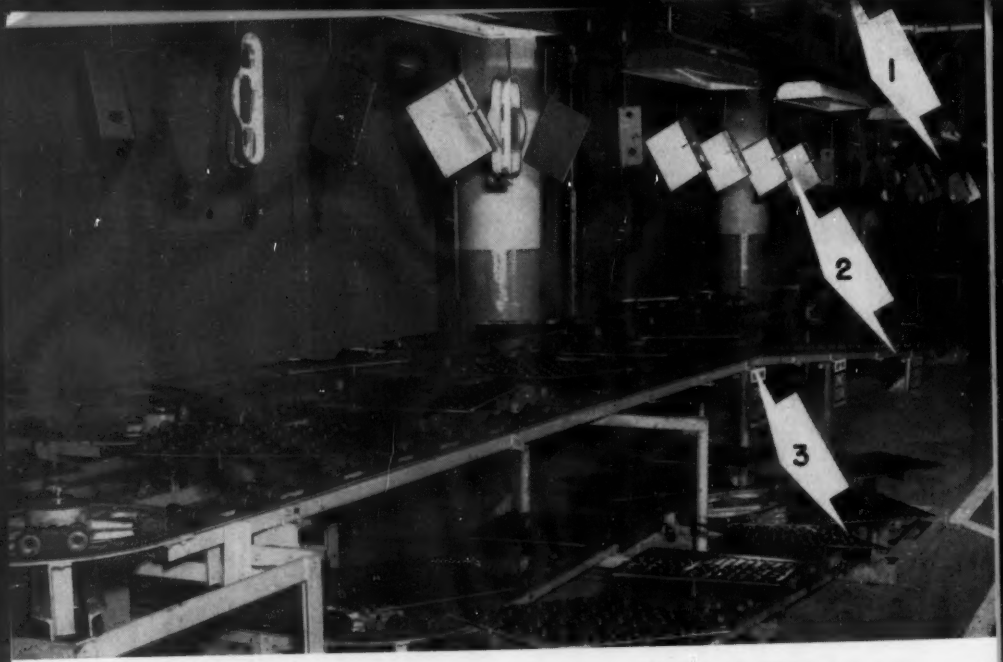
Answer: With reference to your inquiry concerning a supplier of gold and silver lacquer, we are referring you to some lacquer manufacturers.

Information concerning a job finishing shop who can apply gold and silver lacquer for you might also be provided by some of these manufacturers.

DO YOU HAVE A FINISHING PROBLEM?

The editorial staff of PRODUCTS FINISHING is prepared to aid you in the solution of your problem.

There is no charge for this service.



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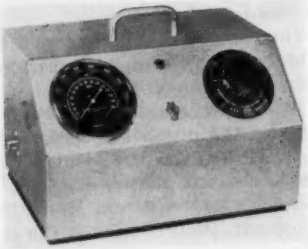

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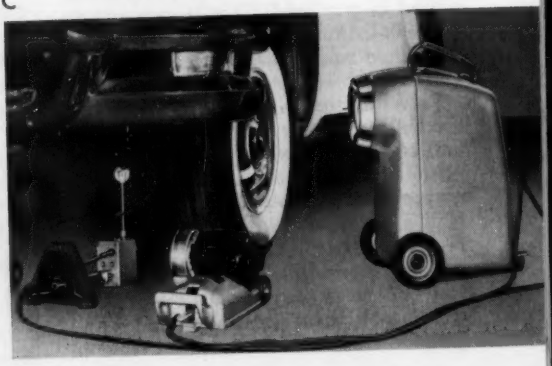

Parts Spray Finished on 3 Conveyors in Compact Finishing Setup

By EZRA A. BLOUNT
Editor

The problem of applying several kinds of paint finishes at the same time has been solved efficiently in the plant of Stewart-Warner Corp., Chicago. Three separate conveyors are routed through several spray booths, but all go through one baking oven simultaneously on three different levels. Result—maximum production for the amount of floor space available.

THE ALEMITE AND INSTRUMENT DIVISIONS of Stewart-Warner Corporation produce lubrication equipment for farm, automotive and industrial use and for use by service stations, repair shops and automobile dealers. A wide variety of products including speedometers, tachometers, flexible shafts, fuel pumps, gages, instrument panels and other devices is also produced. Representative examples of some of these products are here illustrated. These products are fabricated from sheet steel, zinc base die casting alloy, and other metals and are finished in a variety of attractive and decorative coatings in which electroplated coatings form a pleasing contrast with paint and lacquer coatings.

The products of these two divisions of Stewart-Warner receive paint finishes in a compact, efficient finishing department located on one of the six floors of the main Stewart-Warner plant in Chicago. In addition to the fact that a large volume

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(Top, left) To be seen in this photo are the two pallet conveyors as well as the overhead monorail conveyor on which parts are sprayed prior to entering the Spra-Con baking oven (background of photo) for the final finish baking operation. This illustration shows the mechanical arrangement employed to make it possible for the two pallet conveyors to enter the oven simultaneously at different elevations. (Photograph courtesy the Stewart-Warner Corporation, Chicago 14, Illinois.)

(Left, lower photos) Several Stewart-Warner products. A. Model 650-A bench-type calibrator, made to calibrate and test tachometers and speedometers. B. Hand operated automatic transmission fluid dispenser, Model 8521. C. Alemite Electronic Wheel Balancer, shown in operating position. (Photos courtesy Stewart-Warner Corp., Chicago 14, Ill.)

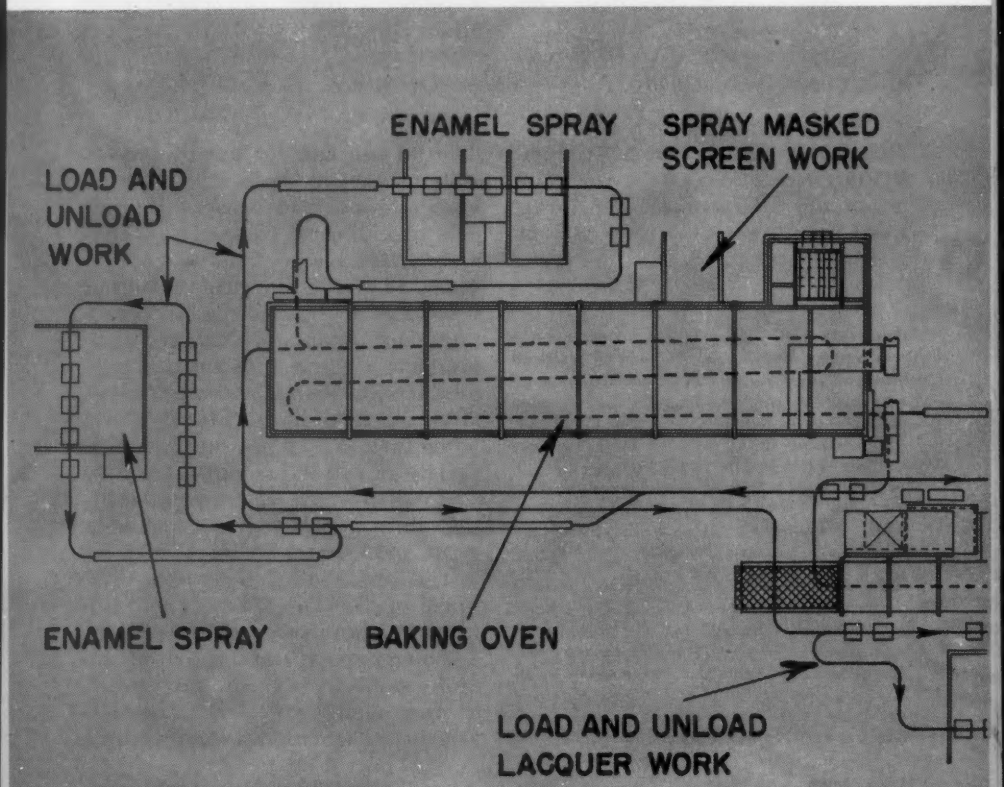
Historical Outline

THE STEWART-WARNER CORPORATION traces its beginning to the early 1890's when John K. Stewart and Thomas J. Clark began specialty manufacturing of flexible shafting, used for dentists' drills and in larger sizes for hair clipping and sheep shearing apparatus. Inventive and ambitious, the two young men constantly improved their products. The company prospered, and in 1896, it was incorporated as The Chicago Flexible Shaft Company. Bolstered by the capital obtained from incorporation and the sale of stock, the company branched out into the manufacture of products allied to flexible shafting.

In 1905, Stewart and Clark formed another company, the Stewart and Clark Manufacturing Co. They realized that flexible shafting could be quite important to the automobile, in the form of a device called the speedometer. They were soon offering such a device for automobiles.

A competitor, the Warner Instrument Co., was purchased, and the merged company was incorporated under the name of Stewart-Warner Speedometer Corporation.

The addition of many products and manufacturing operations followed, resulting from the inventions of Mr. Stewart (82 patents were issued to John K. Stewart in the period 1893-



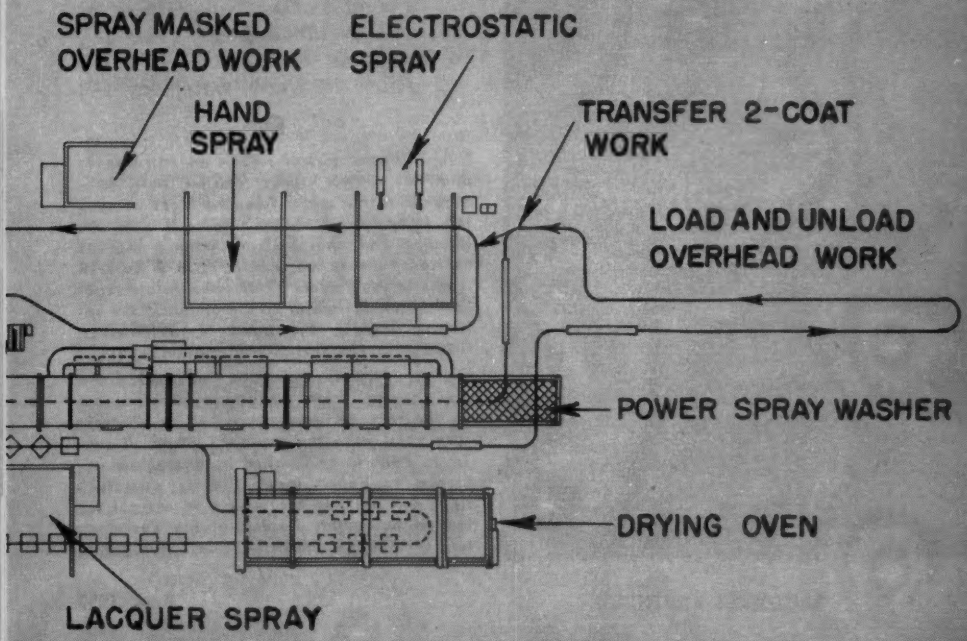
1917) and the acquisition of other companies.

The founders of the company both died young. Mr. Clark died in 1909 during the Glidden automotive reliability tour, a fore-runner of automobile racing; Mr. Stewart died suddenly at the age of 46, as the result of a throat ailment.

Later acquisitions and new ventures included the purchase of the Bassick Lubricator Co., in 1924, which gave the Stewart-Warner Corp. rights to Alemite pressure guns used in lubricating automobiles, and to manufacturing facilities for casters; the entry of Stewart-Warner in 1923 into the radio manufacturing field; the beginning of a subsidiary to produce die castings for automotive parts; and the inception of the "South Wind" Heating Equipment Division in the mid-30's, which later furnished heating units for military equipment and aircraft, which it still does.

Stewart-Warner has made many important contributions to automotive progress, and has been prominent in the automotive service industry, for the lubrication business was made possible and has grown in stature by the Alemite gun and improvements in it made by Stewart-Warner. This company also is an important manufacturer and supplier of automobile instruments and accessories.

Fig. 1—Plan view of Stewart-Warner finishing department. Principal items of equipment as well as paths of the various transport conveyors are shown. Not shown is the air make-up unit which brings into the department filtered air at the proper temperature to replace that taken out of the department by exhaust fans in the spray booths and ovens. (Illustration courtesy the Stewart-Warner Corporation, Chicago 14, Illinois.)



". . . three conveyors are routed through a single paint baking oven simultaneously . . ."

of production can be turned out in this department, which utilizes floor space so effectively, another interesting feature of the setup is that three conveyors are routed through a single paint baking oven simultaneously. A plan view of the finishing department can be seen in Fig. 1.

Paint Finishing Process

Formed steel parts or zinc base die castings to be coated with a paint finish are delivered to one end of the finishing department (extreme right of Fig. 1), either packed, or on skids or pallets. Here they are loaded on racks and placed on an overhead monorail conveyor, or placed on a flat wire mesh horizontal conveyor so that they may proceed through the Blakeslee washer, a view of the entrance of which is shown in Fig. 2, to be cleaned and phosphatized. The power spray washer is 78 feet long and fitted with spray jets so that the various processing solutions will reach all areas of the metal parts being treated.

These parts proceed through the washer at a rate of 8 feet per minute and are processed as follows:

1. Clean in a solution of 1½ oz./-gal. of Parker No. 40 held at 160 to 170 deg. F. Time 1½ minutes.
2. Rinse in warm water for 1½

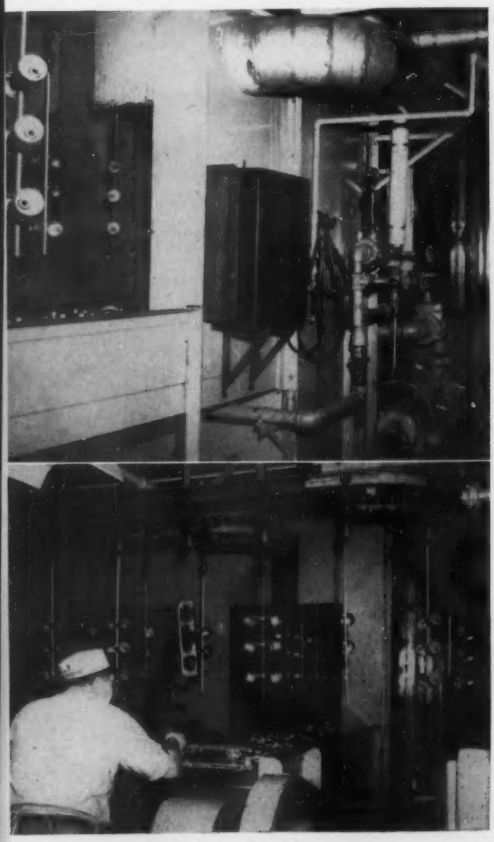


Fig. 2 (Upper photo)—View of entrance to Blakeslee power spray washer (left foreground). In the center foreground can be seen the pump and tank used to recirculate the cleaning and phosphatizing solution through the spray jets in the washer. Also to be seen is one of the Powers 11MF temperature regulators used to control temperatures of the solutions used in the power spray washer. (PRODUCTS FINISHING staff photograph)

Fig. 3—Cleaned, phosphatized and dried parts emerge from the power spray washer on the wire mesh conveyor belt or on racks suspended from the overhead monorail conveyor. Parts to be finished in lacquer are unloaded on pallets located at the operator's right and parts to be finished in enamel are loaded on pallets located at the operator's left. (PRODUCTS FINISHING staff photograph)

minutes.

3. Spray rinse for 1½ minutes in a solution of 10 per cent chromic acid held at 150 deg. F.
4. Dry for 10 minutes in a hot air dryer at 325 deg. F.

Fig. 3 shows cleaned and phosphatized parts emerging from the power spray washer. The parts on the wire mesh conveyor are removed and stacked on pallets to be trucked a short distance to the loading stations for the two pallet conveyors. The parts loaded on racks and attached to the overhead monorail conveyor proceed through the department directly into the electrostatic spray booth and hand spray booth for finishing by whichever method is specified.

To facilitate loading and finishing, pallet conveyors are loaded and unloaded at two stations. This is necessary since these conveyors proceed through the department on different levels and therefore the working level of each conveyor must be located at a different area of the finishing shop. This makes possible more efficient materials handling and routing through the spray booths. As can be noted in Fig. 4, parts are loaded on the metal frames or pallets and proceed through the several DeVilbiss water wash spray booths where they are sprayed with baking enamel in accordance with finishing specifications. The pallet conveyors move at 12 feet per minute and are so constructed that the spray operator can rotate each frame during spraying. The article heading

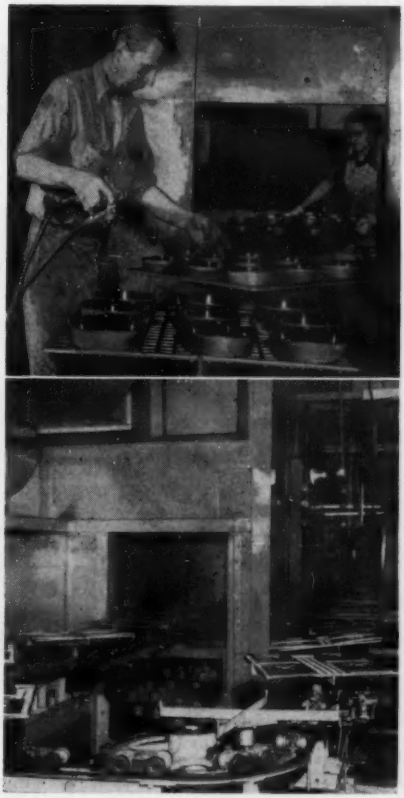


Fig. 4 (Upper photo)—Formed steel parts are loaded on one of the two pallet conveyors (background) and sprayed with baking enamel in one of the several DeVilbiss water wash spray booths. The various paint finishes are delivered to the spray booths through a centralized paint mixing and delivery system. (Photograph courtesy the Stewart-Warner Corporation, Chicago 14, Illinois)

Fig. 5—Shown in this illustration is the entrance to the Spra-Con baking oven for the two pallet conveyors. In the top center foreground, the overhead monorail conveyor is shown leaving the baking oven. The formed steel parts shown entering the baking oven have been sprayed with Lilly Varnish Co. hammered aluminum baking enamel. (PRODUCTS FINISHING staff photograph)

shows how the two pallet conveyors, each loaded with sprayed parts, are constructed so that they may enter the long, gas-fired recirculating oven on two levels. Fig. 5 is another view of the sprayed parts shown entering the oven.

Parts hung on racks on the overhead monorail are sprayed electrostatically in the Ashdee electrostatic spray booth shown in Fig. 6. In the electrostatic spray booth, the U-shaped grid has a positive charge of 110,000 volts. The conveyor track and the parts being sprayed have a negative charge. Paint particles become positively charged and are attracted to the negatively charged metal products, forming a smooth, uniform coat on the parts. To further ensure a uniform paint coating, the racks of parts rotate as they pass the spray area.

The spray guns are operated automatically by a timer actuated by a contact rod. The contact rod is operated by contact with a rack entering the spray area. The contact rod then sets a timer in operation so that spraying takes place at just the right time. Guns spray paint for 6 seconds, followed by a delay of 6 seconds. That compensates for the distance between racks, and improves efficiency of paint application.

Parts pass through the booth about 12 inches distant from the charged grid or electrode, and 25 inches distant from the spray guns. Spraying is performed at 2 pounds

Fig. 6—A view of the Ashdee electrostatic spray booth employed to spray steel hose reels. (Photograph courtesy the Stewart-Warner Corporation, Chicago 14, Illinois)

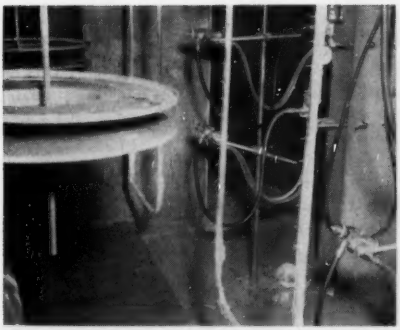


Fig. 7—Another view of the interior of the electrostatic spray booth showing how another model of hose reel is racked for electrostatic spray finishing. (Photograph courtesy Stewart-Warner Corporation, Chicago 14, Illinois)

fluid pressure and 13.5 pounds air pressure. If any touchup is required in a hand spray booth, this can be accomplished in another spray booth through which the conveyor travels.

Fig. 7 is a closeup view showing a drawn steel hose reel being sprayed electrostatically by two automatically actuated spray guns. This product illustrates the excellent coverage over an uneven surface which can be obtained with this process.

Parts on the overhead conveyor, which travels at 8 feet per minute, join the parts on the pallet conveyors in the gas-fired Spray-Con finishing oven for baking of primer or finish coats. Temperature is maintained automatically at 310 deg. F. and the baking time for parts on the overhead conveyor is 21 minutes while that for parts on pallet conveyors is 15 minutes. Fig. 8 is a view inside the oven showing the two pallet conveyors and the overhead conveyor, all three traveling through the oven at the same time. The two pallet conveyors proceed in an opposite direction from that of the overhead conveyor in passing through the baking oven.

If primer and second coat must be applied to any part, that part may be processed on the overhead conveyor system with a minimum of lost motion. After spraying and baking of the primer, the racks of parts may be transferred back to the spray conveyor chain after it leaves the power spray washer. The two sections of overhead conveyor parallel each other at this point for this specific purpose — so that racks may be transferred, and the power spray

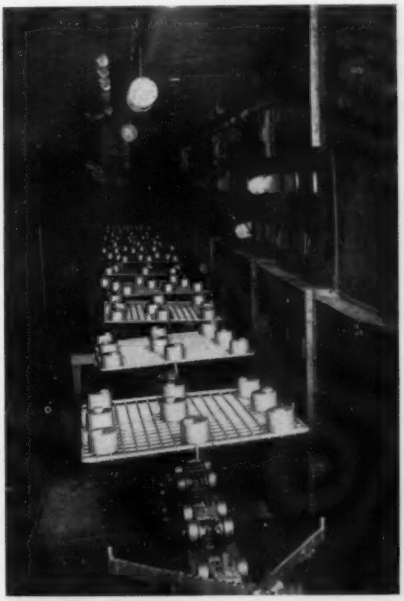


Fig. 8—This view inside one portion of the Spra-Con baking oven shows how the overhead monorail conveyor as well as the two pallet conveyors travel through the oven to accomplish baking of the paint finish on the various products. (Photo courtesy Stewart-Warner Corporation, Chicago 14, Illinois)

washer by-passed, when necessary. **The Stewart-Warner** finishing system includes a unit for applying lacquers. It was deemed to be an efficient utilization of space to install a different spraying and drying unit for lacquers by reason of the fact that lacquers dry at a much lower temperature than that at which enamel finishes are baked. Parts to be finished in the various colors of lacquer are trucked from the cleaning and phosphatizing machine to a pallet conveyor loading station located quite close to the end of the power spray washer, and placed on frames in exactly the same manner as previously described for parts to be enamel finished. The comparatively short oval section of pallet conveyor then proceeds through a DeVilbiss water wash spray booth, in which parts are sprayed, and then through an open-end U-type baking oven for a 3½ minute force drying at 150 deg. F. The parts then remain on the oval-shaped conveyor returning to the loading and unloading station where they can be packed for movement out of the department.

Finish Testing

The paint finishing systems and paint finishes applied at Stewart-Warner are under constant test to keep the quality level high. Parts finished by a wash primer and finish coat must pass a 300 hour salt spray test. White enamel finishes applied over primer coats must pass a 200 hour salt spray test, and a 1000 hour humidity test.

For any new paint products or new combinations, thorough quality

Fig. 9—Lubrication of the idler wheels on the trolley conveyors is accomplished from a station readily available to the maintenance man. (Photograph courtesy the Stewart-Warner Corporation, Chicago 14, Illinois)

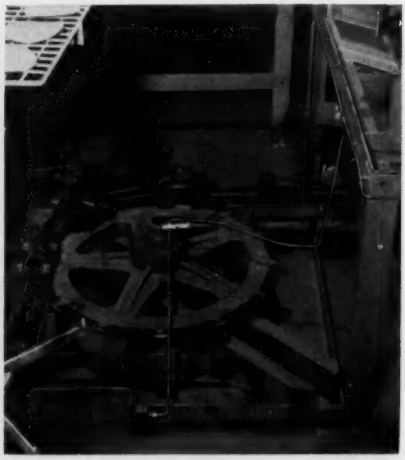
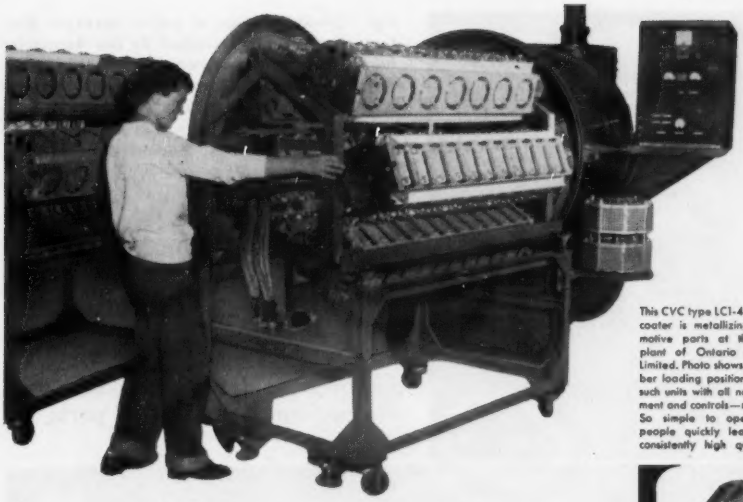


Fig. 10—This illustration shows how pressure lubrication from one station is conducted to another idler wheel of the pallet conveyor system. (Photograph courtesy the Stewart-Warner Corporation, Chicago 14, Illinois)



This CVC type LC1-48C high vacuum coater is metallizing plastic automotive parts at the Gananoque plant of Ontario Steel Products Limited. Photo shows fixture in chamber loading position. CVC delivers such units with all necessary equipment and controls—ready to install. So simple to operate, unskilled people quickly learn to produce consistently high quality coatings.

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It's simple to operate. Load the pieces to be metallized onto the cylindrical fixture and roll it into the vacuum chamber. Throw a switch and in a few minutes a thin film of aluminum deposits on the exposed surface of each piece. A lacquer top coat provides tough, wear-resistant protection for the metallic surface.

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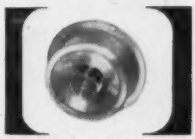
Inside aluminum coating of this back-up light lens guarantees against corrosion and gives a good high-polish chrome-like finish.

This parking light lens is also a second surface coat. The metallized rim around the lens area simulates a die cast or metal bezel.



The plastic sleeve in the center of this taillight lens is vacuum coated on the inside surface.

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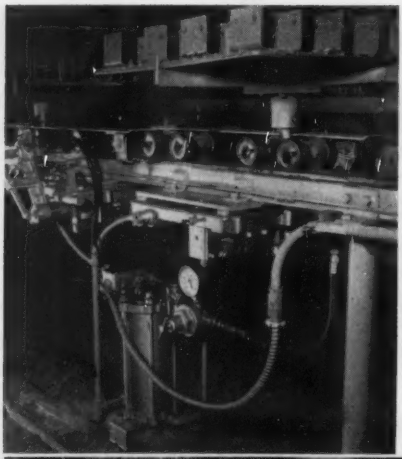

Fig. 11—Lubrication of pallet conveyor trolley wheels is accomplished by the Accumeter lubrication system shown in this illustration. A lubrication setting on each conveyor roller is lubricated automatically by the device shown as the conveyor passes the lubricating station. (Photo courtesy Stewart-Warner Corp., Chicago 14, Illinois.)

control tests are made to be sure that the new finish comes up to specifications, or exceeds the standards previously specified.

Routine paint film thickness tests are performed on finished parts, us-

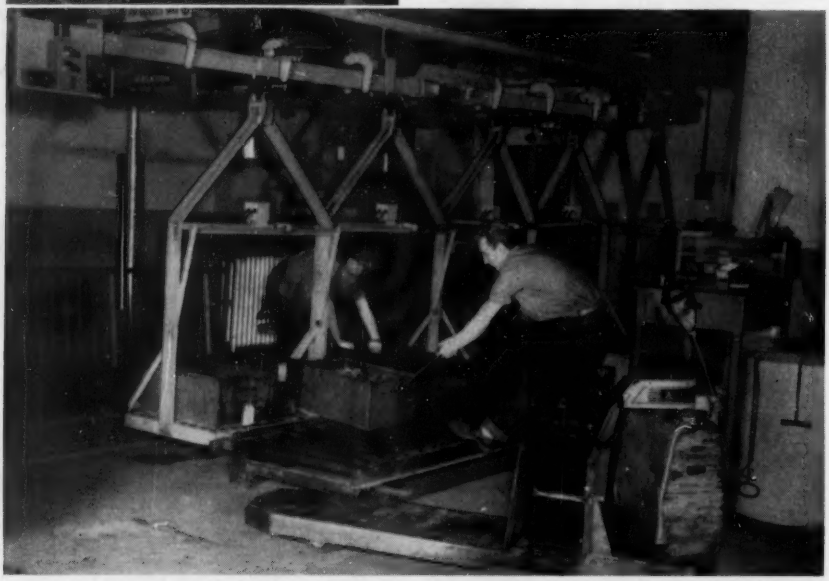

Fig. 12—Standard steel tote pans or pallet boxes are loaded on the carriers of the Jervis B. Webb automatic transport conveyor at any one of the various loading stations located throughout the two buildings and six floors of the Stewart-Warner plant. The loader then sets a selector switch on the carrier and the carrier automatically delivers the load to the station for which the selector switch has been set. This system is employed to deliver metal parts to the finishing department and to transport finished products to storage or assembly. The same automatic conveyor system is employed throughout the entire Stewart-Warner plant. (Photo courtesy Stewart-Warner Corp., Chicago 14, Illinois.)

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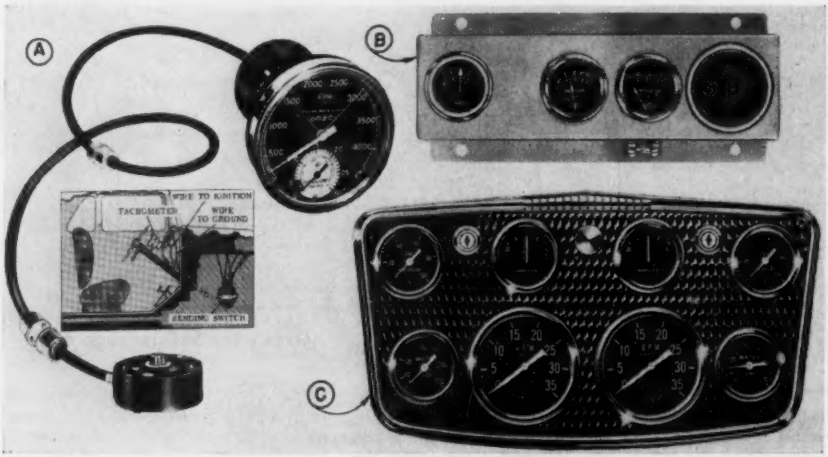
The pallet conveyors and overhead monorail conveyor are lubricated with Alemite Accumeter and Alemite Oil-Mist lubrication systems and Alemite's automatic conveyor wheel lubricator—all three products of Stewart-Warner. Fig. 9 shows a maintenance man lubricating (nine in all—two are shown) pallet conveyor idler wheels from one central station located in a convenient spot. Fig. 10 shows how the lubricant travels through copper tubing to other idler wheels.

Figure 11 shows a typical installation of the conveyor wheel lubricator for lubricating conveyor trolley wheels. This unit automatically engages each lubrication fitting and lubricates the corresponding axle while the conveyor is in motion. In a somewhat similar manner, the Oil-Mist system sprays a small film of oil on overhead monorail conveyor trolleys while they are passing the lubrication station, without product contamination. In a finishing system where conveyors are made to pass through alkali power washers and paint baking ovens, proper conveyor lubrication is important.

Parts to be processed and paint finished parts to be sent to temporary storage or directly to assembly lines in the huge 6-story Stewart-Warner plant located in two buildings, are conveyed to and from the finishing department (and elsewhere



Instrument Division products:
A. Model 762-S Switch or "sending unit" for Stewart-Warner electric tachometer. B. Safety panel to protect remote-controlled engines from various failures. C. Representative instrument panel manufactured by Stewart-Warner. (Illustrations courtesy the Stewart-Warner Corporation, Chicago 14, Illinois)

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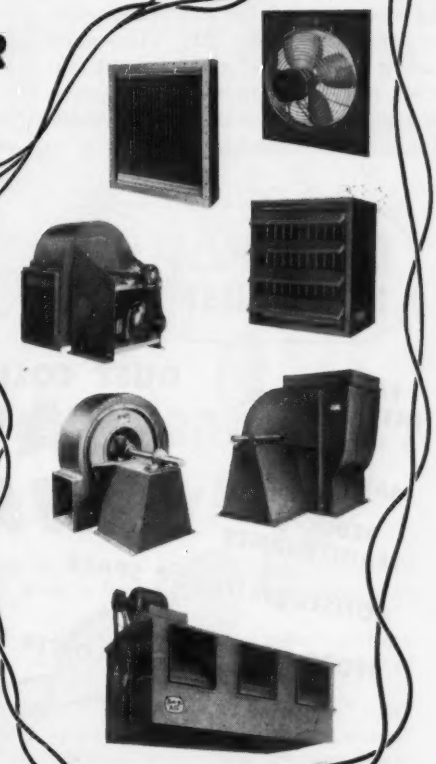

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for that matter) by a Jervis B. Webb automatic transport conveyor (Fig. 12). Parts are loaded into standard shop trucks or tote pans and placed in a carrier of the automatic conveyor system (Fig. 12). The loader sets a release mechanism on the carrier, and the conveyor then automatically delivers the carrier to the location indicated by the setting on the release mechanism.

Perhaps the most important lesson to be learned from a study of the Stewart-Warner finishing installation is that of the importance of efficient product movement. As finishing installations become more mechanized, many of the practices adopted by Stewart-Warner will find use in other plants.

★ ★ ★

Interpretation of Engineering Data: Some Observations. —By Harold F. Dodge. A reprint of the Edward Marburg Lecture, presented before the Annual Meeting of the American Society for Testing Materials. Published by the American Society for Testing Materials, Philadelphia 3, Pa. Price, $1.50.

This bulletin contains mathematical data and explanations of statistical quality control, sampling procedures, and methods of interpreting data.

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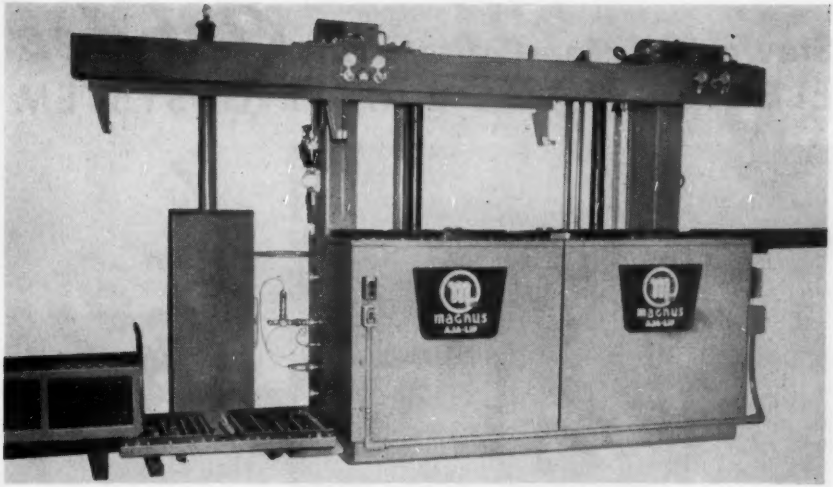

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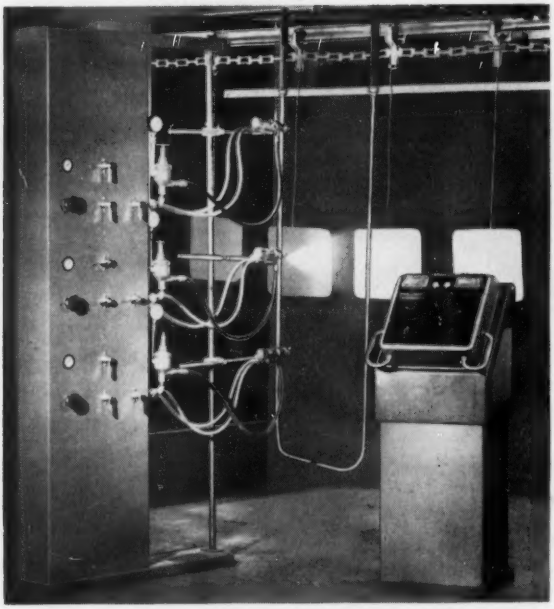

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Spotlighting FINISHING Progress

Intentionally Porous Electrodeposits

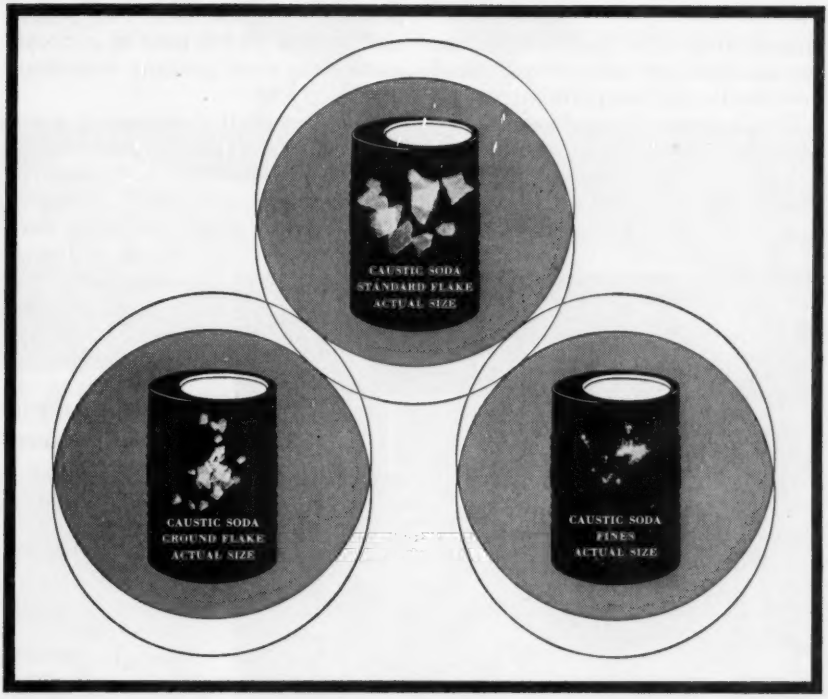
By Dr. C. Fred Gurnham, Head, Dept. of Chemical Engineering, Michigan State College

THE PREVENTION OF PORES in electrodeposits is a common goal of most electroplaters, and is the subject of considerable research at the present time. The deliberate production of deposits of high porosity is most unusual, and there is little literature of precedent for guidance. Successful attainment of such a goal was reported at the Fourth International Conference on Electrodeposition and Metal Finishing, by C. L. Faust and W. H. Safranek, of Battelle Memorial Institute:

These investigators have obtained deposits of copper, nickel, and zinc, with predetermined microporosities as high as 58 per cent. The deposits have been coherent and smooth, in thicknesses up to one-eighth inch. Deposits adherent to steel were obtained, as well as porous electroformed discs and tubes that could be separated from the basis metal mandrel.

The voids produced were generally in the form of continuous pores or channels perpendicular to the basis metal. Pore diameters

DOW



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Hundreds of industrial caustic users, large and small, depend on Dow. Why not try this simple formula for complete caustic soda satisfaction? There's no illusion . . . or disillusion . . . when you "Get it from Dow". THE DOW CHEMICAL COMPANY, Midland, Michigan.

you can depend on DOW CHEMICALS DOW

ranged from 0.002 to 0.004 inch in deposits of 45 per cent porosity, and were smaller for less porous deposits.

The porous electrodeposits are permeable to both gases and liquids. A porous copper tube of 0.1 inch wall thickness and 46 per cent voids passed hydrogen gas at a rate of 12 cubic feet per square inch per minute at a pressure differential of 10 pounds per square inch. The permeability of a nickel tube of approximately the same porosity was about one-third less.

Electrodeposited copper of porosity greater than 45 per cent is brittle, and electroformed tubes in this category are easily cracked. Nickel is very much less brittle than copper of equal void volume. The copper can be improved in ductility by heating (10 hours at 1004 deg. F.), without change in porosity.

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visit our booth
No. 394 at Industrial Finishing Exposition, June 20 - 23 at Cleveland Public Auditorium

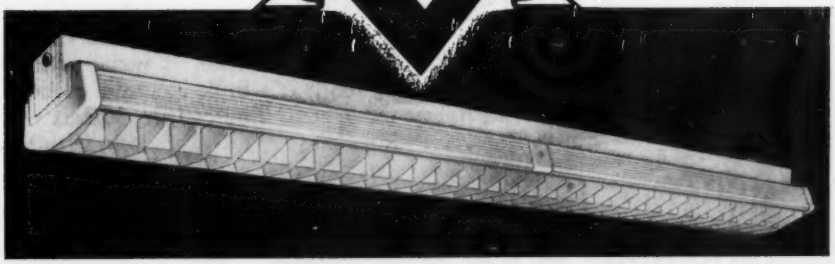
Factors Affecting Porosity

The technique for obtaining porous deposits relies on use of special-type addition agents, of which colloidal graphite is most satisfactory. Concentration of addition agent, current density, and bath temperature are the major variables affecting porosity. In the nickel and zinc solutions, pH also affected the void volume.

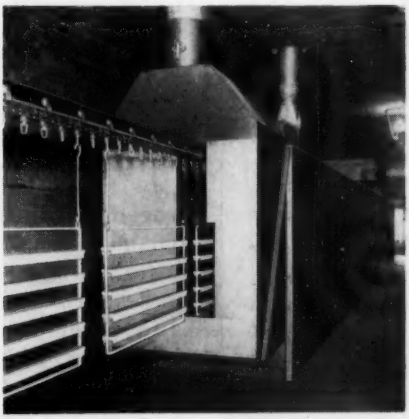
Porous copper was plated from

Here's a Real

VIRDEN VALUE



in this MODERN "Streamliner" LIGHTING FIXTURE



ENAMEL DRIED IN A CONTINUOUS LANLY FINISHING OVEN

Eye appeal and product "Sale-ability" of this attractive Virden fixture are greatly enhanced by the smooth, lustrous coating of white synthetic enamel on certain component parts.

Drying is rapidly and economically accomplished in a LANLY gas-fired, continuous oven at 300 degrees F.

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LANLY FINISHING OVENS
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a bath containing:

150 g./l. copper sulfate, $CuSO_4.5H_2O$
150 g./l. sulfuric acid, H_2SO_4
65 g./l. Aquadag
20 g./l. gelatin

The Aquadag is a proprietary dispersion of colloidal graphite in water, containing 22 per cent solids. Porosities in the electrodeposited copper varied linearly with current density, from 27 per cent at 75 amperes per square foot to 55 per cent at 125 a.s.f.

Agitation was found desirable in order to avoid coagulation of the colloidal graphite. It was provided by both air injection and cathode movement. The copper deposit was smooth, with the exception of a few trees on sharp edges. Throwing power and uniformity of deposit were good, generally better than without graphite.

Porosity Determination

Two methods were used for determining porosity, and good agreements were obtained. Weighing of the specimen both before and after impregnation with hot oil provided a measure of the interconnected voids. Density measurements permitted calculation of the total voids, including "sealed" pores. Porosity interconnected

DANIELS

MINIATURE IN EVERYTHING BUT PERFORMANCE

The smallest bulk plating machine available for industrial use, the new DANIELS 3H Miniature Small Parts Plating Barrel gives giant-size performance.

Equipped for interchangeable horizontal or oblique plating cylinders, this adaptable new plater is ideal for production, as well as experimental and other pilot work, and for precious metal and other small volume solution plating.

Despite its size, the 3H has every feature of the standard size H-type DANIELS barrels and is constructed of high-temperature plexiglass. Cylinder dimensions are 3" diameter x 3" deep; the horizontal cylinders 3" x 4".

Write today for the big story on this small parts miniature DANIELS plating barrel.

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ELECTRONICS MANUFACTURER REPORTS OVER 30% SAVINGS IN DEGREASING SOLVENT

Raytheon Mfg. Co. reports over 30% saving in degreasing solvent since the installation of its new Phillips cross-rod conveyorized degreaser. In degreasing operations for its highly reliable quality line of receiving tubes, Raytheon also reports these added advantages: Automatic adjustable timing cycle for uniform degreasing; savings in operator time; minimum fume exposure; and consistently cleaner parts. Just another story of Phillips efficiency degreasers. Check with us today for the answer to your cleaning problems. We'll be glad to help you with your "problem" parts. Send us a sample for test with the new PHILLIPS "Ultra Clean" process.

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PHILLIPS MANUFACTURING COMPANY
ENGINEERED METAL CLEANING EQUIPMENT

In Canada Phillips equipment is manufactured under license by Williams Tool Corp. of Canada, Ltd., Brantford, Ont.

measurements by both methods differed by less than 2 per cent, indicating the absence or near-absence of sealed voids.

Porous Nickel

The most suitable solution for plating porous nickel consisted of:

330 g./l. nickel sulfate, $NiSO_4.6H_2O$
45 g./l. nickel chloride, $NiCl_2.6H_2O$
40 g./l. boric acid, H_3BO_3
60 g./l. Aquadag

Maximum porosities were obtained at 40 to 60 g./l. of Aquadag, with denser deposits at lower or higher concentrations. Porosity also increased with current density, and decreased with pH and temperature.

Porous Zinc

The zinc bath used for porous deposits consisted of:

300 g./l. zinc sulfate, $ZnSO_4.7H_2O$
15 g./l. sodium acetate, $NaC_2H_3O_2.2H_2O$
30 g./l. ammonium chloride, NH_4CI
30 g./l. Aquadag

Only thin deposits of porous zinc were produced. Porosities of 45 per cent were obtained in 0.0007 inch thickness.

Conclusions

The possible uses and applications of porous-metal plating were not discussed in the paper by Faust and Safranek. These investigations demonstrate the practicability of preparing such deposits, and indicate suitable techniques. The process is particularly interesting since its aim is the exact opposite of most electroplating.

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Want to play games? Any resemblance between what this beach peach is doing and the great game of basketball is purely accidental. *But* — any resemblance between what our customers ask for and what we ship them had better *not* be accidental! We have put a lot of time and thought and effort and experience into developing our facilities so we can be sure to furnish *exactly* what is wanted. Our line of standard and special products is really extensive today — paints, varnishes, enamels, lacquers, or what have you. If you are game to let us tell you what perhaps we can do for you, just toss us a ball and we'll carry it . . .

Affiliate: **GORDON BARTELS CO.,** *Roller Coating Specialists*

Roller Coating Material

The Watson-Standard Co. has announced an epoxy coating specifically formulated for roller coating application.

The basic formulation, No. 13-327, and its modifications show excellent fabrication and adhesion characteristics. Of particular interest to cap and closure manufacturers, this white coating has excellent tumbling resistance, scuff resistance and resistance to staining.

Shipped at 52 to 54 per cent non-volatile and at a viscosity of 80 to 90 seconds (No. 4 Ford Cup), this formulation 13-327 may be used as received without further adjustment. It is suggested that this coating be baked at 315 to 350 deg. Fahrenheit.

This fabricating white is suggested for use where toughness, fabrication, chemical resistance and adhesion are basic requirements. The flow characteristics make this coating suitable for canisters, lunch pails, cans and other applications, the manufacturer states.

For further information, contact the Watson-Standard Co., 225 Galveston Ave., Pittsburgh 30, Pa., or circle No. 50 on Reader Service Card inside back cover.

★ ★ ★

Automatic Cleaning Machine

The Magnus Chemical Company, Inc., has announced an addition to the

Aja Lif line of equipment.

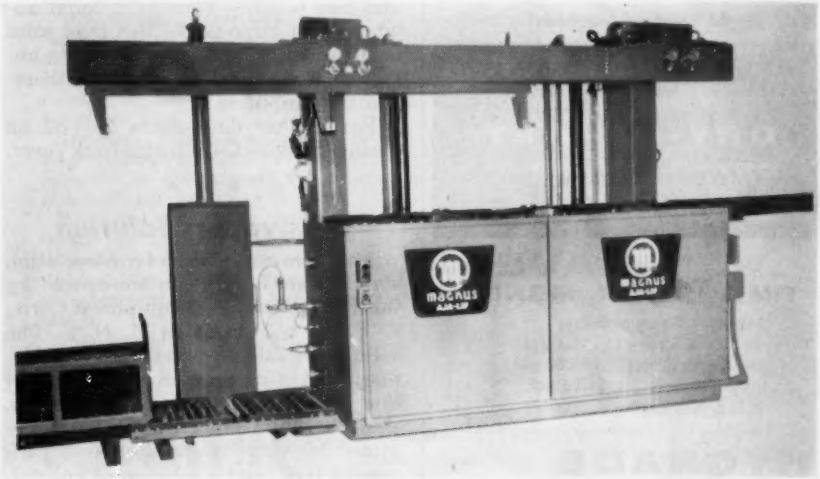
In this new development the Magnus "Aja Lif Automatic" Machine is equipped with a "nu-matic push device" and "air lift loading" of the work.

The work to be processed (generally in baskets), is pushed at floor level on to a lifting roller platform which automatically raises the work to the working level or top of the cleaning machine. At the same time, similar roller platforms in each tank raise to the same level. Then a push drive device with collapsible dogs above the tanks transfers each basket or batch of work one step forward at each cycle.

By means of a timing device which synchronizes the "nu-matic push drive" with the "air lift loading," the platforms in each tank, with the work on them, are lowered into the cleaning solution. They are then vigorously agitated for the necessary length of time, after which the platforms automatically rise again to working level. At this moment the "nu-matic push drive" will transfer the baskets or loads one more step toward the right. The process repeats itself indefinitely.

The equipment is air powered.

The Magnus "Aja Lif Automatic" with "nu-matic push drive" can be de-



Magnus Aja Lif cleaning machine equipped with automatic loading and shifting devices, allowing automatic operation.

signed for any number of operations and for use with solvents, alkalies, or acids. It requires no special foundation and can be installed in any existing production line.

For complete details write to Dept. PF, Equipment Div., Magnus Chemical Co., Inc., Garwood, N. J., or circle No. 51 on Reader Service Card inside back cover.

★ ★ ★

Aluminum-Cored Lead Anodes

Aluminum has teamed up with lead to make possible an important advance in the metal-plating industry. Aluminum and lead are being joined to produce aluminum-cored lead anodes for use in chromium plating and sulfuric acid electrolytic processes.

The aluminum-lead anodes have been developed by Reynolds Metals Co., Louisville, Ky., working jointly with Knapp Mills, Inc., Wilmington, Delaware.

Lead is used extensively for anodes in chromium plating because of its excellent corrosion resistance to chromic acid.

Using aluminum cores, the anodes are physically strengthened, the overall conductivity is high, and in the event of an ultimate break in the lead cladding, dissolution of aluminum will not cause harmful contamination.

The Knapp Mills aluminum-core anode utilizes a rectangular aluminum bar clad with lead. The anode top forms a hook for efficient contact to the bus bar. Other forms of aluminum may be used for custom-built anodes on special plating jobs.

Other advantages of aluminum cored lead anodes are stated as follows: longer anode life—arc-off at the solution level is minimized, reducing corrosion attack to a negligible amount; and less weight—aluminum cored anodes weigh appreciably less than solid lead anodes. Handling problems in anode removal for cleaning will, therefore, be simplified.

For further data circle No. 52 on Reader Service Card inside back cover.

★ ★ ★

Passivating Solution

An improved solution for passivating stainless steel has been announced by the Thor Chemical & Equipment Corp., 77 S. 5th St., Brooklyn 11, N. Y. The solution is said to provide for the formation of a surface on stainless steel that resists oxidation and corrosion. Best possible results are said to be obtained by using a stainless steel processing tank, and a solution of one gallon of Thor-O-Pacivating Solution to 4 gallons of water, heated to 160 deg. F.

Protect spray booths with
BOOTHCOTE
the finest product made!

SAFER
Non-Inflammable, Non-Toxic
DRY-OR-WET
Boothcote No. 4 for dry wall booths (just peel off overspray)
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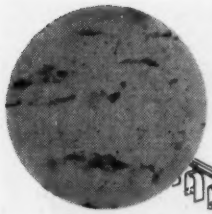
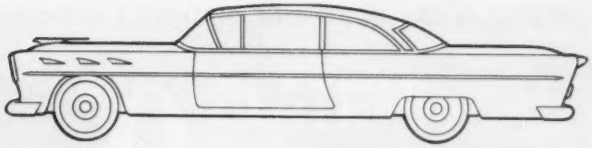
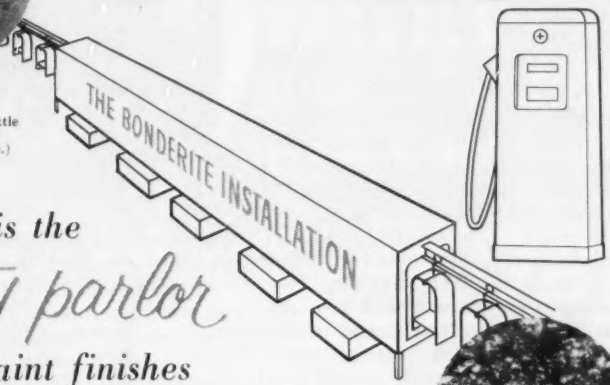
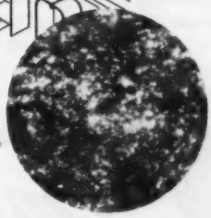


BEFORE BONDERITE . . .
Plain metal surfaces are smooth, slippery, offer little for paint to hang on to. (100 times magnification.)





This is the beauty parlor for fine paint finishes



AFTER BONDERITE . . .
Bonderite-treated metal has a fine, nonmetallic phosphate coated surface, takes and holds paint securely. (100 times magnification.)

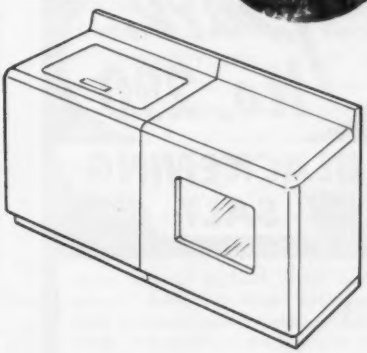
As the photomicrographs show, a trip through the Bonderite "beauty parlor" changes the surface of metal—changes it to a nonmetallic over all phosphate coating which is integral with the metal itself.

This coating protects and preserves beauty three ways: (1) by anchoring the paint, (2) by resisting rust and corrosion, and (3) by preventing the creep of finish failure if the paint film is scratched or broken.

The leading painted metal products in every classification, from automobiles and appliances to steel windows and x-ray equipment, are treated with Bonderite.

Your metal products, too, should all go through the Bonderite "beauty parlor" before they arrive at the paint booth. It's the economical, effective, *proven* way to assure lasting fine appearance for fine paint finishes.

Write for full information.



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BONDERITE corrosion resistant paint base
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PARCO COMPOUND rust resistant
PARCO LUBRITE wear resistant for friction surfaces
TROPICAL heavy duty maintenance paints since 1883

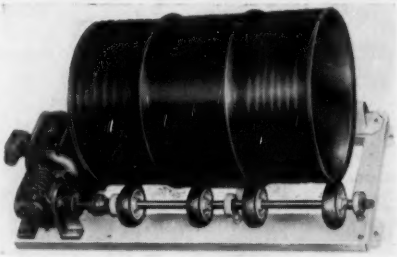
Room temperature solutions may be used, although a longer process time must then be allowed.

For further data circle No. 53 on Reader Service Card inside back cover.

★ ★ ★

Drum Rotator

The Morse Manufacturing Co., East Syracuse, N. Y., has announced a Floor Model Drum Rotator for rotating drums with loads up to 1000 pounds. It can be used for agitating, mixing, and tumbling in the original container. Idler wheels are adjustable for various size drums. Six inch diameter Neoprene drive and idler wheels give adequate clearance for the largest protector rings, and sealed bearings assure long life. The right angle geared head ½ h.p. motor can be supplied to meet any electrical specifications, with drum rotating speeds of 10 to 30 r.p.m.



Floor Model Drum Rotator

The Model 15154 Rotator is provided with mounting lugs and occupies a floor space 24 by 60 inches.

Complete information is available in Bulletin No. 255.

For further data circle No. 54 on Reader Service Card inside back cover.

Park No. 290
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Black Oxide finishing for rust resistance and decorative parts. Speedy black coating in water solution with no electric current. Permanent black finish on ordnance parts, tools, aircraft, bearing races. Dazzling black decorative finish for television cameras, business machines, hardware, metal screens and machine parts. Excellent bond for paints and enamels. Simple one bath operation. Write for bulletin H-16. Park Chemical Co., 8078 Military Ave., Detroit 4, Mich.

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CHICAGO 47

Coating Thickness Tester

Lea Lectromag Thickness Tester

The Lea Manufacturing Co., Waterbury, Conn., has announced an improved design of the Lea Lectromag, a precision instrument for measuring the thickness of nonferrous coatings such as zinc, copper, cadmium, and lacquer, on carbon steel or iron.

Improvements in design and utility of the Lectromag include: calibration with National Bureau of Standards Thickness Samples; plug attachment at side rather than top, providing better visibility of the indicator, sturdier construction and easier manipulation of the tube assembly; knurled rather than smooth top on the glass tube assembly, providing a better grip for manipulating the glass tube; and compact instrument case with calibration chart for easy calculation of thickness.

The Lea Lectromag is designed for a thickness testing range from 0.0002 to 0.008 inch with the following accuracies: plus or minus 15 per cent on thicknesses under 0.001 inch and plus or minus 10 per cent on thicknesses over 0.001 inch. The unit operates on 110-115 volts a.c., 60 cycle current, with a voltage variation compensating feature.

Complete details may be obtained by writing The Lea Manufacturing Co., 16 Cherry Ave., Waterbury 20, Conn., or by circling No. 55 on Reader Service Card inside back cover.

★ ★ ★

Automotive Enamel

An automotive enamel that has excellent resistance to chalking, checking, and loss of gloss, has been announced by the Ditzler Color Division of the Pittsburgh Plate Glass Co.

Two years of exhaustive testing under every conceivable type of exposure have shown that the coating possesses a very low chalking rate. This finish

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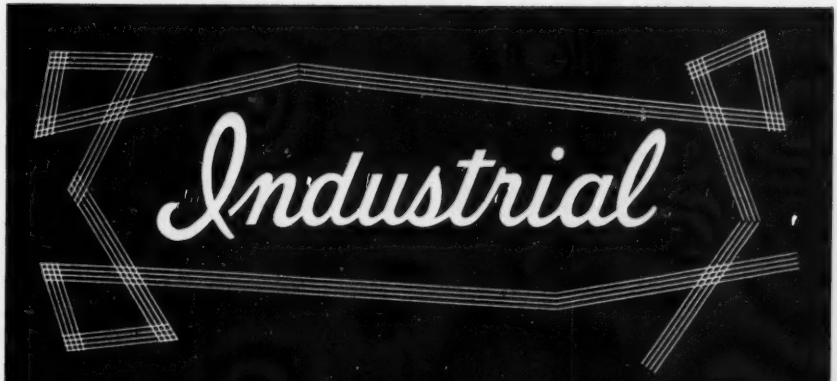

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CORROSION TEST CABINETS
HEAT EXCHANGERS

eliminates the need for polishing a car during the first two years, the manufacturer states. It is also advantageous for cars stored out of doors, as a quick wash will reveal the original lustre.

The coating, to be known as "Ditzler D R E," is also said to possess exceptional resistance to checking. Even when cars are parked out of doors constantly the need for periodic polishing is practically eliminated, the manufacturer states.

The coating is said to be particularly advantageous to car manufacturers because of the trend to multi-colored cars, since it will not discolor on overbake. Even though an automobile body has been baked three or four times, the color will still match fenders that have been baked only once, it is stated.

The gloss of the automotive coating is said to be excellent. This high lustre is practically unaffected by repeated baking or bakings at high temperatures. This feature allows each section of a two or multiple-toned automobile body to have the same gloss, regardless of the number of bakes necessary.

In addition to exceptional resistance to chalking, checking and excellent gloss retention, the coating also is said to have good color-holding properties, a distinct advantage for the new pastel shades now gaining in popularity. The product may be applied by conventional application methods.

For further data circle No. 56 on Reader Service Card inside back cover.

★ ★ ★

Paint Stripper

Octastrip 31, a paint stripper for use on metals, has been announced by Octagon Process, Inc., Staten Island, N. Y. Suitable for use on a wide variety of finishes, including Epons, alkyds, lacquers, and wrinkle finishes, the material is said to evaporate slowly, and have a moderate odor. The stripper incorporates a water seal, and is usually used in dip applications. It is non-flammable. Loosened paint is rinsed off with cold water. For further information, write Octagon Process, Inc., 15 Bank St., Staten Island 1, N. Y., or circle No. 57 on Reader Service Card inside back cover.

Filter your solutions!

* Reg. App. For

50-2400 GAL/HR.

Self-priming Model LSIN-10 . . . Cap. 100 gal/hr. H.T. Lucite Filter Assembly. Stainless pump . . . totally enclosed Motor . . . portable . . . Wt. 60 lbs. . 14"x16"x16" high.

Distributors in principal cities. Write for literature.

PARTIAL LIST OF MODELS

Model	Rated Capacity	Overall Size	Weight
LSI-5	50 gal/hr	11"x14"x12"	30 lbs.
LSI-10	100 gal/hr	12"x16"x16"	40 lbs.
ASI-300	300 gal/hr	2'x2'x2'	125 lbs.
ASI-600	600 gal/hr	2'x2'x2'	150 lbs.
RLS-1200	1800 gal/hr	2'x3'x3'	300 lbs.

SERVICE . . . Filters practically any acid or alkaline solution from pH 0 to pH 14; removes particles down to one micron in size. Strainer stops metallic objects.
DESIGN . . . **Filter Assembly** fabricated of stainless steel 316, high temperature lucite, rubber-lined, Haveg or Sethrin* resin. **Filter Tubes** of cotton, dynel, porous stone or porous carbon. **Pumps** fabricated of Hastelloy, stainless 316 or plastic; centrifugal or self-priming. **Motors** drip-proof, totally enclosed, or explosion proof, 110 or 220 volt, single or three-phase, 50 or 60 cycle, sleeve or ball bearing. **Hose** — special acid and alkali resistant. **Base** — Linen Phenolic laminate on rubber tire ball bearing casters.

Sethco MANUFACTURING COMPANY
70-72 Willoughby Street • Brooklyn 1, N. Y.

CHEMSTEEL CONSTRUCTION COMPANY, INC.
301 Chemsteel Bldg., Walnut St., Pittsburgh 32, Pa.

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of processing & storage tanks & flooring in
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WHEELS, BUFFS & BOBS

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A Extra Soft—for polishing tin, glass, and instrument hands
B Soft—for polishing aluminum, jewelry, soft brass; used as a coloring wheel
C Medium—for general work, polishing copper, brass, bronze, jewelry, hardware
D Hard—for polishing cut stones, hardware, ornamental ironware
E Rock Hard—for polishing steels, plastics, leather

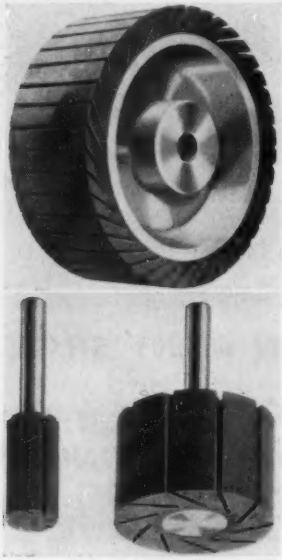
Also made in A+, extra soft plus
B+, soft plus
C+, medium plus
D+, hard plus
E+, rock hard plus

LET US HELP YOU WITH YOUR BUFFING PROBLEMS

Eastern Felt Co.
WINCHESTER • MASS.

Expander Wheel

A slotted rubber abrasive band wheel has been announced by the Chicago



Slotted Rubber Expander Wheels

Rubber Co., Inc., 2620 Clybourn Ave., Chicago 14, Ill. Easier operation and instant change of abrasive bands, with no tools, are primary advantages claimed for this wheel. The abrasive band is merely slipped off the wheel when it is necessary to change, and a new band is slipped on. When the wheel is started, centrifugal force expands the slotted Cosmo Expander and holds the abrasive band firmly in place.

High resiliency offered by this design is said to be particularly advantageous in contour work. These wheels are offered in a variety of sizes, from ½ inch to 8 inch diameters. Sizes up to 2 inches in diameter are available with ¼ inch mandrels. Larger sizes are available in the arbor type hole only.

For further data circle No. 58 on Reader Service Card inside back cover.

★ ★ ★

Round Lead Anode

A round lead anode for use in chromium plating baths has been announced by Hanson-Van Winkle-Munning Co., manufacturer of plating and polishing equipment and supplies. The anode is designed to give better current distribution over the entire anode area. It also permits faster plating, better chromium coverage and the use of higher current densities, it is stated.

Made of virgin tin and lead blended into a special alloy, this anode eliminates selective corrosion caused by foreign metal inclusions, H-VW-M reports. This alloy is suitable for use in all chrome solutions; other alloys are available on request.

MORSE
VERTICAL DRUM TRUCK
ROCK-A-DRUM

Picks up 55 gal. drums, rolls them over for side draining. Becomes a rugged stand on 3" wheels.
MORSE MFG. CO., INC. 762 W. Manlius St. East Syracuse, N.Y.

McKeon's "Liquid Sulphur"
Economical, satisfactory for
STRIPPING COPPER
and
OXIDIZING COPPER AND SILVER
Literature on request
Sulphur Products Co., Inc.
228 McKEON WAY GREENSBURG 6, PA.

The anode is extruded to provide a dense nonporous structure. Its simple heavy cross section enables it to withstand high current density without overheating or warping. Totally insulated hooks are homogeneously lead burned to the anode to ensure positive contact for the life of the anode.

Use of a round anode reduces problems of chromate scale, corrosion and assures even anode wear, the company states. Its shape also makes the anode easier to clean and reduces maintenance problems. This shape provides maximum plating hours per anode and serves to minimize rejects due to poor current distribution. Power savings are realized from the anode's reduced current requirements, the manufacturer states.

These anodes are available in 1½ inch or 2 inch diameters and in lengths from 12 to 50 inches. A standard grip hook is furnished with each anode. Special plastic-coated hooks are also available.

For further information, write to Hanson - Van Winkle - Munning Co., Church St., Matawan, N. J. or circle No. 59 on Reader Service Card inside back cover.

★ ★ ★

SELECTED FREE FILMS. More than 175 motion pictures are described in "Selected Free Films," a booklet issued by **Association Films, Inc.,** 347 Madison Ave., New York 17, N. Y. The films are available for loan to clubs, industries, schools and other organizations.

Do you have a conveyor problem that is too small to "engineer". . . . . .

but is still a production or warehousing hindrance?

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DOWN
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STRAIGHT LINE
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MACHINE-TO-MACHINE

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It will cost you nothing to get the benefit of 20 years of conveyor experience in all types and sizes of plants. If you can describe it better by phone, call our Engineering Department, Tipp City, Ohio, 5111. Or write to The Tipp Manufacturing Co., Tipp City 9, Ohio.

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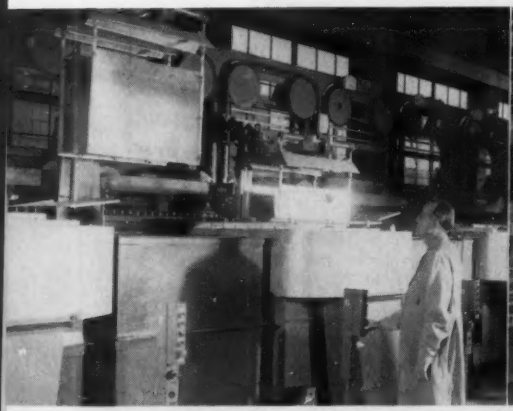
News of the Industry

NEW PLANTS

INTERNATIONAL NICKEL COMPANY has announced the opening of a new electroplating research laboratory, featuring a fully automatic pilot plating plant. This pilot plant, located in the company's Bayonne Research Laboratory offers to industry, on a selective basis, the opportunity of testing both new coatings and new processes on a scale as close as possible to an actual industrial plating plant. The fully automatic equipment is capable of producing

Fig. 1—A view of the new International Nickel Company plating laboratory. On the left is the automatic pilot plating plant. On the right, the manual plating line.



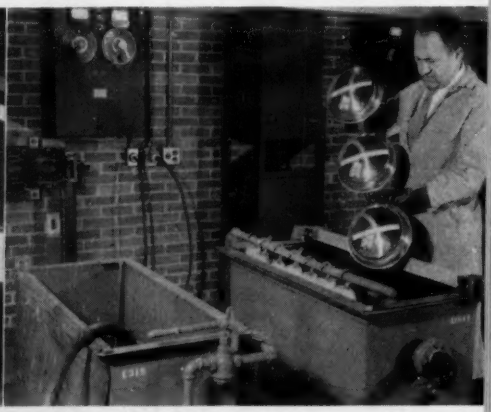


Fig. 2 (left)—Close-up view of one section of the automatic plating machine. Control operator is shown monitoring plating operation at rinse stage.
Fig. 3 (Right)—Hub caps being bright nickel plated in the manual operation.

coated metal test panels in large numbers with a high degree of control to assure uniformity. These panels, together with data obtained during their processing, provide the plater with an accurate forecast of the feasibility of a new type of coating or process.

The automatic equipment (Figs. 1 and 2), located in the main section of the laboratory building, which encompasses an area 145 feet long by 65 feet wide, has provision for 13 different stages of plating and/or cleaning. The tanks are 400 gallon capacity, and are rubber lined, lead lined, and unlined steel. The machine is completely automatic except for loading and unloading, and can be used in either single or double line operation, handling work up to 3 feet in cross section. It can be operated from a central panel board, where time, current, and voltage for each stage of the operation can be observed and controlled. Power for the cleaning and plating operations is supplied by a bank of 6 rectifiers, each rated at 1,000 amperes at 12 volts and 2,000 amperes at 6 volts. The machine is equipped with fume exhausts at each station.

Featuring great flexibility, the machine is designed so that tanks can be handled with a lift truck, and placed in any sequence desired. The transferring and conveying mechanism permit work to remain stationary at any given station for as long as desired, from 5 seconds to several hours or even days. Although the machine was designed primarily for automatic operation, it may be operated manually.

The manual plating line (Fig. 3) consists of 18 stations, and is equipped with rubber or lead lined tanks and steel rinse tanks. They range in size from 100 to 300 gallons, and can be placed in any sequence desired. The equipment includes pumps and filter presses for continuous filtration of solution, cathode agitators, a variety of immersion heaters, and several heat exchangers. Current is supplied by 7 rectifiers ranging in capacity from 300 amperes at 12 volts to 2,000 amperes at 6 volts. Each station in the manual line is equipped with a means of exhausting fumes.

The bench scale laboratory (Fig. 4), which is equipped with a fume hood, has 2 laboratory work benches 12 feet long and 5 feet wide. The benches and hood are equipped with compressed air, burner gas, hot and cold tap water, and demineralized water. Solutions are heated with immersion type heaters, sheathed in either pyrex, quartz or nickel to satisfy a variety of needs. Current is supplied by 13 portable rectifiers connected to an automatic voltage stabilizer. These range in capacity from 25 amperes at 12 volts to 300 amperes at 6 volts. Automatic timers are available for improved accuracy.

Other facilities include a polishing and buffing room, equipment for salt spray testing and a controlled humidity room for storage of metal.

The work in the plating section of the Bayonne Research Laboratory is concerned with the evaluation of new processes and coatings, research aimed at new uses for nickel, and research to improve the properties of nickel coatings, with emphasis on enhancing their durability and protective value.

Some outstanding developments of this laboratory are: a hard nickel bath used for reclaiming worn and machined parts; an all-chloride nickel bath for producing medium hard deposits, featuring high conductivity and excellent anode corrosion; methods for making nickel-clad ferrous metals and composite metals; methods for plating with insoluble anodes; fundamental research on the mechanics of weathering of electrodeposited nickel; and pioneering research in the field of high speed plating.

★ ★ ★

A 10,000 square foot addition to the Taunton plant of **BACON FELT CO.** is now under construction, it has been announced by Stanley McNeilly, co-owner of the firm. The new building will be of one story brick construction.

The additional floor space will allow

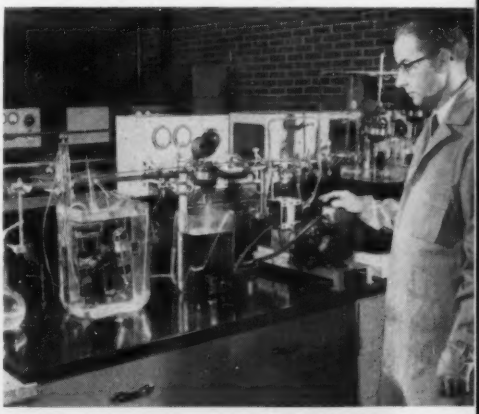
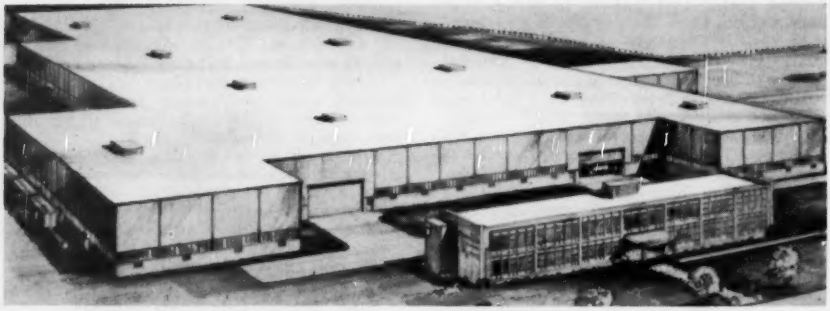


Fig. 4—Bench equipment is used for electroless nickel plating of a bronze valve.



Perspective of plant to be built by The American Brass Co. in Los Angeles, Calif.

expansion of production facilities to satisfy the demand for the felt wheels, sheet felt and felt bobs Bacon manufactures under the Paramount trade mark.

★ ★ ★

SOUTH FLORIDA TEST SERVICE, 4201 Northwest Seventh St., Miami, Florida, has completed an expansion program involving the construction of a new laboratory annex building adjacent to the existing laboratory, office buildings, and proving grounds. An additional test field, 275 by 275 feet, is also nearing completion.

The company will celebrate the 25th anniversary of its founding next year. Expansion has been necessitated by the increased volume of the business in the past few years.

A new brass mill in Los Angeles County, Calif., will soon be under construction by **THE AMERICAN BRASS CO.**, it has been announced by John A. Coe, Jr., president of the Waterbury, Conn., firm. The new mill will be built for the production of copper and copper-base alloys, in the form of sheet, strip, rod, tubing and drawn copper products. Annual capacity is estimated at 30 million pounds.

The new plant will be of one story construction and will occupy some 330,000 square feet of floor space.

C. RUSSELL EPLEY has been named manager of this new facility. Formerly, Mr. Epley was San Francisco district sales manager.

★ ★ ★

Official ground breaking ceremonies for the new Central Paint Research Laboratories of **SEARS, ROEBUCK AND COMPANY** have been conducted in Chicago,

New South Florida Test Service Laboratory Annex Building

Illinois. R. E. Brooker, vice president of factories, broke the first ground at the 14th St. and South Kostner Ave. laboratory site. When completed, the new laboratory will serve as the research and development center for Sears' seven paint, varnish and wallpaper factories. The laboratory will occupy 20,000 square feet and will be of brick construction.

G. A. Nichols, the technical director of Sears paint and varnish factories, will be responsible for all work at the new laboratory as well as the research and development work which will be continued at each of the paint factory laboratories. He pointed out the growing importance of research in the successful growth of the Sears paint factories during the postwar years. A total of over 150 chemists and assistants are employed at the Central Laboratory and the various paint and wallpaper factory laboratories located at Benjamin Franklin Paint and Varnish Company, Philadelphia, Pa.; Carolina Paint & Varnish Works, Greensboro, N. C.; DeSoto Paint & Varnish Company, Garland, Tex.; Illinois Paint Works, Chicago, Ill.; Inland Wallpaper Company, Chicago, Ill.; Pacific Paint & Varnish Company, Berkeley, Calif.; and John A. Steen Varnish Company, Chicago, Ill.

S. U. Greenberg, general manager of Sears' paint, varnish and wallpaper factories, credited the laboratories with many outstanding developments, including the recent introduction of a complete line of odorless gloss, semi-gloss, and flat enamels and varnish products. Largely because of their efforts, industrial sales have more than doubled in the past five years. Various developments in the test tube and pilot plant stage will assure the continuance of this growth, according to Mr. Greenberg.

Key research personnel on the Central Laboratory staff include F. O. Vogenitz, the chief chemist for pigmented goods and C. W. Johnston, resin research director. J. C. Lomonaco is in charge of all exposure work and comparison testing, and H. A. Price is the technical sales coordinator.

The laboratory is scheduled for completion during late fall of 1955. At that time the various groups of the Central Laboratory will move from present quarters at Illinois Paint Works, John A. Steen Varnish Company and Inland Wallpaper Company.

NEW POSITIONS

Two new high level sales posts have been created in the DeVilbiss Company, Toledo, Ohio. **EMIL F. FREY** has been named manager of industrial sales and **D. V. PERRY**, formerly assistant sales manager, has been appointed manager of jobber sales.

HOMER A. LANGE, advertising manager, has been made manager of advertising and sales promotion, in which position he will direct an expanded program in these fields.

Mr. Frey joined DeVilbiss in 1916. After one year, he was assigned to the sales department. He has since held several important posts in the company. Recently, he has served as director of advertising and sales promotion. He will continue as director of the DeVilbiss School

Sears, Roebuck and Company officials break ground for new Central Paint Research laboratory. (Left to right) R. J. Anderson, J. C. Lomonaco, F. O. Vogenitz, G. A. Nichols, R. R. Roberts, and H. A. Price.

of Spray Painting and the customer research laboratory. Mr. Frey founded the school.

Mr. Perry, who joined the company as a sales representative has worked closely with users of DeVilbiss products, and is well acquainted with the jobber field. Formerly, he was eastern district manager of the company.

Mr. Lange joined DeVilbiss as advertising manager in 1946, after serving in a similar capacity at Balcrank, Inc., Cincinnati, Ohio, for 11 years.

★ ★ ★

Edward W. Sloan, Jr.

EDWARD W. SLOAN, JR., Cleveland industrial and civic leader, has been elected to the board of directors of Cowles Chemical Co., at the annual shareholders' meeting.

Mr. Sloan's election increases membership of the board from five to six. Other directors re-elected at the meeting, in addition to R. F. Huntley, president of the company, were C. C. Bassett, W. M. Clossey, C. B. Lansing and D. A. Gaskill.

★ ★ ★

The appointments of **HAROLD A. KAHLER** as assistant to the vice president and **WALTER B. ELLIS** as western district manager have been announced by Promat Division, Poor & Company, Waukegan, Illinois.

Walter B. Ellis

Harold A. Kahler

Mr. Kahler came to the home office after serving as eastern representative since 1953. Prior to this association, he held positions in the metallurgical and chemical departments of Kaiser-Fraser Corp., and Ford Motor Company in Detroit. He is a member of the American Electroplaters' Society, American Society for Testing Materials and A.S.M.

Mr. Ellis becomes manager of the Promat west coast division with offices in Gardena, Calif. His previous associations include: plant manager of the Illinois Plating Company, Peoria, Ill.; finishing superintendent of Dura Chrome Corp., St. Louis, Mo., and southwestern district representative for Lasalco, Inc., St. Louis.

COMPANIES

A standard full automatic plating machine will be demonstrated at the 1955 Industrial Finishing Exposition by **WAGNER BROTHERS, INC.** Wagner Brothers is conducting a "Give Me A Name" contest for this machine, with the winner to be awarded a complete set of custom high fidelity audio equipment (including speaker cabinet, turntable with pickup, amplifier with remote control, and tape recorder). The winner will be announced at the conclusion of the exposition at the Cleveland Public Auditorium, on June 23rd.

Anyone attending the show is eligible to enter the contest. Official Contest Blanks and literature describing the mechanism are available at Wagner Booths 488-504. The contest closes at 2:00 p.m. on June 23rd and all entries must be made by this date to be considered. Contestants may submit as many entries as they wish. Judging will be done by a committee composed of leading representatives of the plating industry, Wagner Brothers and Bingham Technical Advertising.

★ ★ ★

A new plant and additional facilities for mixing and distributing industrial thinners has been opened by **POTTER PAINT CO., INC.**, in Cambridge City, Ind. The new location permits rapid and economical services to thinner users in the Midwest and South. Eastern users will continue to be served by Potter Paint Co., Inc., at Cortland, New York.

The Indiana plant will be under the management of Robert J. Potter.

A variety of thinner products is manufactured by the Potter Paint Co., Inc. These include Lackersolv, a universal spraying thinner; Kleensolv, a cleaning thinner; Lackeroff, a soap; Synthesolv, a synthetic reducer; and other specially blended thinners tailored to individual requirements.

★ ★ ★

FEDERATED METALS DIVISION, AMERICAN SMELTING AND REFINING CO., has been appointed exclusive agent for the line of plating chemicals manufactured by **INCAR, INC.**, Cleveland, Ohio, it has been announced. Incar, Inc. will produce and service the chemicals, while the Plating and Electrochemicals Department of Federated Metals will arrange for distribution through leading plating supply houses. The new line of chemicals will supplement Federated Metals' present plating anode business which includes copper, zinc, cadmium, tin, and lead anodes.

★ ★ ★

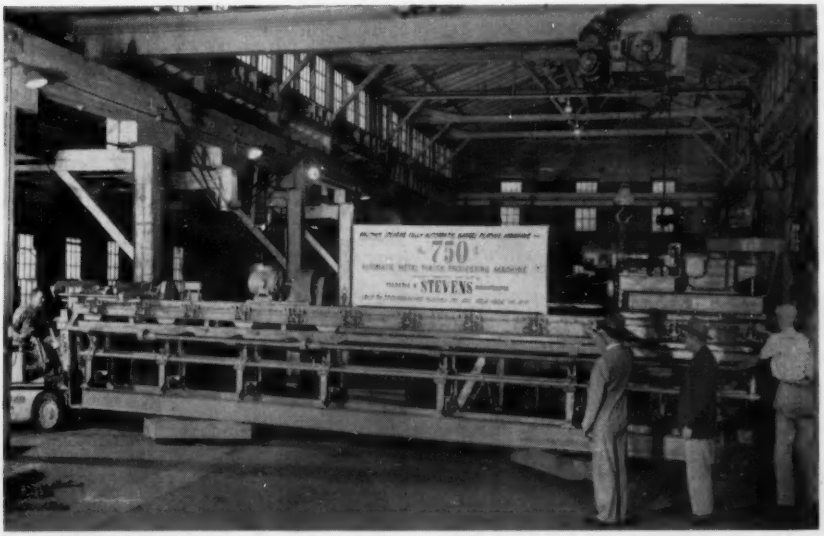
FREDERIC B. STEVENS, INC., metal finishing equipment and supply manufacturer, has recently installed the 750th Stevens Automatic Plating and Processing Machine.

The 750th machine, a Stevens Full Automatic Barrel Plating Machine, has been installed at the Spectranome Plating Co., New York, and will be used for production nickel plating of pencil clips and similar parts.

Of the 750 machines the Stevens Organization has engineered and manufactured, over 100 have been full automatic barrel plating and processing units for American and Canadian industry.

The company's first 750 machines have been and are being used by many major manufacturing firms in the United States requiring immersion type finishes at some stage in their manufacturing operations. Many metal finishing job shops also are benefitting from automatic rack or barrel processing.

The first 750 Stevens machines have been used with the following processes: paint preparation and rustproofing; aluminum and magnesium finishing; brass and aluminum descaling and/or bright dipping; all types of electroplating; conversion coatings, metal dipping; metal washing, cleaning and/or pickling; electropolishing; and stripping.



Setting the Stevens 750th Automatic Processing Machine in operation at the Spectranome Plating Company, Inc. The equipment is being used for full automatic barrel nickel plating.

SOCIETIES

Ralph D. Wysong

Announcement has been made of the candidacy of **RALPH D. WYSONG**, Studebaker Div., Studebaker - Packard Corp., for the office of 3rd vice president of the American Electroplaters' Society. Elections for this office will be held at the 42nd Annual Convention of the American Electroplaters' Society in Cleveland, June 20-23. A graduate of Purdue University in Chemical Engineering, he is presently chemical engineer in charge of finishes for the Studebaker Division of the Studebaker-Packard Corp.

A registered professional engineer in the state of Indiana, Mr. Wysong is a past president of the St. Joseph Valley Branch, having advanced through all the lower offices to that position. He has been a branch delegate to all the national conventions of the A.E.S. since 1943, and was a member of the planning committee for the 1952 Chicago Convention.

Mr. Wysong is also a member of the American Society for Metals; he has been on the executive committee of this organization for eight years. He is active in the following organizations as well: Advisory Board of the Industrial Waste and Water Resources Committee of the Automotive Manufacturers Association; Committee B-8, Electrodeposited Metallic Coatings, the American Society for Testing Materials; Committee B-12, Industrial Cleaning, the A.S.T.M.; and Sub-Committee on Upholstering Materials, the Society of Automotive Engineers.

★ ★ ★

The **107TH MEETING** of **THE ELECTROCHEMICAL SOCIETY** held in Cincinnati May 1-5, was one of the most successful meetings ever held by the society. A total of 924 members and guests attended the meetings and social affairs during the five-day meeting.

In addition to the many papers presented, which were of primary interest to the visitors, plant trips to the Baldwin Piano Company, Beckjord Generating Station, and Taft Health Center were arranged.

Social events included a cocktail party, buffet supper and entertainment, the Society Luncheon, and the President's Reception and Society Banquet.

The ladies were entertained with a style show, as well as several trips and special luncheons.

DR. ROY O. McDUFFIE, Professor of Metallurgical Engineering, University of Cincinnati, served as general chairman of the convention committee.

Dr. Gustav Eckstein, Professor of Physiology, University of Cincinnati, was the speaker for the Electrochemical Society Luncheon held on May 3 in Cincinnati. Shown at the Speakers' Table (left to right) are: Carl Taglauer, Dr. L. I. Gilbertson, Ezra A. Blount, Dr. Hans Thurnauer, Lewis M. Lederer, E. G. Widell, Dr. Henry B. Linford, executive secretary; Marvin J. Udy, president of the Electrochemical Society; Dr. Roy O. McDuffie, convention chairman; Dr. Gustav Eckstein, speaker; Dr. H. H. Uhlig, Dr. Robert Price, Dr. Norman Hackerman, William J. Schreiner, Sherlock Swann, Jr.

MICHIGAN STATE COLLEGE Alumni will meet for a special breakfast at the 42nd Annual Convention of the American Electroplaters' Society. The first such MSC reunion was held at the 1954 convention in New York City and was so successful that it is being repeated this year and will probably become an annual affair. Michigan State College Alumni who plan to attend the convention should notify Professor C. Fred Gurnham of the Department of Chemical Engineering at the college as soon as possible in order to reserve a place.

★ ★ ★

A wide range of subjects relating to research and testing of engineering materials will be discussed at the 58th Annual Meeting of the **AMERICAN SOCIETY FOR TESTING MATERIALS** to be held at Chalfonte-Haddon Hall, Atlantic City, N. J., June 26-July 1. A total of 30 sessions are now scheduled beginning on Monday morning and continuing until Friday noon. Six symposiums are scheduled on the following subjects: impact, judgment factors in soils testing, significance of tests of concrete, high purity water corrosion, speed of testing, and metallic materials for service above 1600 deg. F. In addition, sessions are scheduled at which individual papers will be given on the subjects of soils, non-ferrous metals, steel, testing of materials, and fatigue.

Important on each year's program are two lectures, the Edgar Marburg Lecture and the Gillett Memorial Lecture. The Marburg Lecture this year will be given by **DR. WALTER J. HAMBURGER,** Director, Fabric Research Laboratory, Inc., Boston, Mass., on the subject of textile fibers. **DR. FRITZ V. LENEL,** Renssalaer Polytechnic Institute, will give the Gillett Memorial Lecture on metal powders.

Important in the Society's activities are the large number of technical committee meetings which are scheduled. Forty-five committees and their subcommittees will hold a total of about 450 meetings.

On Wednesday evening, June 29, the annual dinner will provide a "break" in a week otherwise devoted to intensive technical activity. Entertainment will include a floor show and dancing.

The Philadelphia District Council, as host for the meeting, is planning an attractive program of ladies entertainment for the many wives who will accompany their husbands to Atlantic City.

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TYPE: Single sump vapor degreaser with auxiliary hand spray equipment with offset construction.
WORK LOAD: 7,200 lbs. of aluminum per hour with maximum single loads of 1,200 lbs.
WORKING DIMENSIONS: 68" long, 72" wide, 66" deep.
OVERALL DIMENSIONS: 7'8" long, 8'0" wide, 9'9" high.
SOLVENT CAPACITY: 180 gallons.
CONSTRUCTION: Welded 3/16" zinc spray metalized on inside and reinforced 180 gallon storage with 25 gallon pump reserve.
HEAT: 220 volt, 60 cycle, 3 phase, alternating current.
SPRAY PUMP: 1" solvent pump with 1/3 HP motor, 220 volt, 60 cycle, single phase alternating current.
SPRAYS: Through flexible hose with hand spray nozzle arrangement.
DUAL VAPOR CONTROL: Control unit on inside of tank, water separator and solvent cooler included in solvent distillate line.
WATER CONTROL: Sarco TR-54R complete with strainer, installed in water cooling system.

THIS UNIT WAS PURCHASED AND INSTALLED BUT NEVER PUT INTO USE AND IS IN PERFECT CONDITION, COMPLETE READY TO OPERATE.

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Herberth E. Head

HERBERTH E. HEAD will be a candidate for 3rd vice president of the American Electroplaters' Society, elections for which will be held at the 42nd Annual Convention in Cleveland, June 20-23.

Supervisor of electroplating and related operations, the Automotive Body Division, Chrysler Corp., Mr. Head is a graduate of St. Frances Academy, Owensboro, Ky.

He is a past president of the Detroit Branch of the A.E.S., has been a delegate to the National Convention for the past 15 years, and has served on the committee handling all Industrial Finishing Expositions.

He is also a member of the following organizations: Committee B-8 on Electrodeposition, the American Society for Testing Materials; the Society of Automotive Engineers; the Electrochemical Society; the Engineering Society of Detroit; and the Sea Horse Institute.

HONORS

The annual dinner meeting of the Kirk & Blum Manufacturing Company 25 Year Club has been held in Cincinnati, Ohio.

New members of the Kirk & Blum Manufacturing Company 25 Year Club. (Left to Right) B. J. Wilke (new member), Edward Thierry (oldest in point of service, with 48 years), L. H. Stortz (new member).

New members of the 25 Year Club who were presented gold watches were **B. J. WILKE** and **L. H. STORTZ.** The club now has 49 members.

The Kirk & Blum Manufacturing Co. is engaged in the design, fabrication and installation of dust collecting systems, fume exhaust systems, glass cooling systems, industrial ovens, and the custom fabrication of sheet and plate steel for industrial products.

NECROLOGY

CARL F. MAYER, SR., president and founder of the Carl Mayer Corporation, Cleveland, Ohio, passed away suddenly April 20.

He will be succeeded as president by his son Carl Mayer, Jr., who has been vice-president and general manager of the company since 1951. Mr. Mayer has been associated with his father in the operation of the industrial oven design firm for the past ten years.

★ ★ ★

JOHN M. COOK, 60, a pioneer in developing the abrasives industry, died April 14 in Johnsonville, N. Y. He was vice-president and general sales manager of Behr-Manning Division of Norton Co., and a director of both companies.

meetings

OF INTEREST TO FINISHERS

June 6-8. Annual Meeting and Suppliers' Exhibit, Institute of Appliance Manufacturers, Netherland Plaza, Cincinnati, Ohio.

June 20-23. 42nd Annual Convention and 4th Industrial Finishing Exposition, American Electroplaters' Society, Municipal Auditorium, Cleveland, Ohio.

June 26-July 1. Annual Meeting, American Society for Testing Materials, Chalfonte-Haddon Hall, Atlantic City, N. J.

Sept. 14-16. Annual Shop Practice Forum, Porcelain Enamel Institute, Ohio State University, Columbus, Ohio.

Opportunity Section

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REPRESENTATIVE

SITUATION OPEN — Representative wanted to handle complete line of tumbling barrels, equipment, abrasives, compounds, etc., direct to metal working plants. Liberal commissions and repeat sale items. Territories open are Pittsburgh, Detroit, Chicago, Milwaukee, and Indianapolis. Write, giving lines presently handled.

TUMBLING SALES & SERVICE CO.

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Opportunity Section

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Well established New Jersey manufacturer of industrial finishes, strip coatings and corrosion-resistant coatings has attractive opening for experienced Field Sales Manager. Job involves extensive travel East of the Rockies supervising company's salesmen and distributors in the field and calling on "national accounts." Specific experience along these lines absolutely essential. Swivel-chair executive not wanted. This is a new position reporting directly to President-Sales Manager of a tightly-knit, owner-managed company. Realistic salary plus over-ride commission on existing volume plus additional compensation on increased volume. Once-in-a-lifetime chance for a worker. Snapshot with resume appreciated. Address: President, Box No. 61, c/o Products Finishing, 431 Main St., Cincinnati 2, Ohio.

REPRESENTATIVES

Distributors, jobbers and manufacturers' agents wanted by a leading midwestern manufacturer to distribute and sell a complete line of polishing and buffing compounds in bar, spray or paste form. Several territories now open. Please give all particulars in first letter which will be held in strict confidence.

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ASTM Standards on Paint, Varnish, Lacquer, and Related Products. 868 pages. Published by the American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa. Price, $6.00.

This compilation of ASTM Standards on Paint, Varnish, Lacquer, and Related Products, provides the latest review of the more than 200 specifications, tests, and definitions issued by the American Society for Testing Materials in this field.

The work in this field is conducted by Committee D-1 on Paint, Varnish, Lacquer and Related Products, in cooperation with the Federation of Paint and Varnish Production Clubs. Some 60 standards in this publication have been approved as Federation Standards.

Included as information only are proposed specifications published in draft form for the purpose of soliciting comments.

The contents of this compilation include listings under the broad general headings of:

Pigments; Drying Oils, Paint Driers and Thinners; Shellac, Varnish and Varnish Materials; Naval Stores; Cellulose and Cellulose Derivatives; Paint Weathering Tests; Lacquer and Lacquer Materials; Traffic Paint; Bituminous Emulsions; Printing Inks; and Paint Tests, Putty.

★ ★ ★ ★ ★

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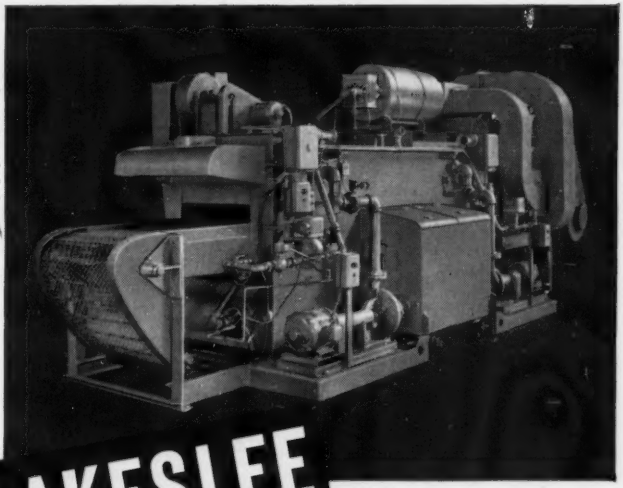

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PRODUCT LITERATURE

62. Dip and Flow Coat Finishing

Technical bulletins on dip tank and flow coat finishing are available from E. I. duPont de Nemours & Co., Finishes Division, Room 7145-D, Wilmington 98, Del. The bulletins describe the process, and discuss advantages and disadvantages of the two finishing techniques. Size and shape of dip tanks, methods of dipping, hanging of the ware, methods of agitation, tank control, as well as general suggestions and precautions are treated in the dip tank bulletin. The flowcoat brochure includes sections on limitations of flowcoating, operating variables, surface preparation, primers, topcoats, and thinners.

63. Automatic Electronic Painting System

The Ashdee method of electronic painting is described in detail in a booklet which may be obtained from Ashdee Electrostatic Products, Inc., 18029 Dixie Highway, Homewood, Ill. Electrical characteristics, mechanical characteristics, and spraying theories for electrostatic spray painting are discussed at length.

64. Organic Solvents

A handbook on organic solvents may be obtained from The Solvents and Chemicals Group, 2540 West Flournoy St., Chicago 12, Ill. Properties of solvents, such as flash point, toxicity, dry time, and solvent power are explained in non technical language. Comparison tables, testing methods, and applications of organic solvents are included in this handy pocket size edition.

65. Plating and Process Equipment

A brochure which may be obtained from The Meaker Co., 1629 S. 55th Ave., Chicago 50, Ill., lists and gives details on Meaker equipment for plating, anodizing, pickling, bonderizing, and other processes.

66. Barrel Finishing.

Oakite Products, Inc., 20 Rector St., New York 6, N. Y., has available a booklet entitled "May I Put My Head in Your Finishing Barrel?" It contains useful information on precleaning, cutting down or deburring, pickling, descaling and bright dipping, and burnishing.

67. Expander Abrasive Band Wheel

A leaflet available from the Chicago Rubber Co., 2620 Clybourn Ave., Chicago, Ill., explains the operation and advantages of the Cosmo Expander Slotted Wheel for abrasive bands. Diameters available and recommended speed range for each are included.

68. Conversion Coatings

Information on products for metal protection and paint bonding is given in a folder which may be obtained from the American Chemical Paint Co., Ambler, Pa. Applications and reasons for use are given for "Alodine," an aluminum treatment material, "Lithoform," for the treatment of zinc surfaces, and "Granodine," used in treating steel and its alloys. An index of materials made by American Chemical Paint Company and the metals protected by each is also included.

69. Potassium Cyanide Cylinders.

A bulletin featuring Cyanodes, one-half ounce potassium cyanide cylinders, may be obtained from Kaynide Division, Kraft Chemical Co., 917 W. 18th St., Chicago 8, Illinois.

70. Sand Screen

A free sample and a descriptive folder on Sand Screen abrasive sheets are offered by the Carborundum Co., Dept. PF, Niagara Falls, N. Y. These abrasive coated screens offer advantages in less clogging and faster surfacing, finishing and polishing.

71. Structural Plastics.

The use of plastics of the glass reinforced, polyethylene and rigid vinyl types in structural applications where corrosive conditions are present such as ductwork, ventilators, hoods, ventilating systems, battery trays, fume scrubbers, anode boxes, and acid tank covers, is described in a bulletin entitled "Chemical Proof Equipment News," available from Heil Process Equipment Corp., Rigidon Plastic Div., 12901 Elmwood Ave., Cleveland 11, Ohio.

72. Ion Exchange Demineralizers.

Bulletin No. 200, available from the Industrial Filter & Pump Mfg. Co., 5904 Ogden Ave., Chicago 50, Ill., describes standard two-bed ion exchange demineralizer units for processing water for many industrial applications. Several models are shown, principle of operation is discussed, and applications, advantages, construction details, and capacity features are cited. Features of custom designed industrial demineralizers are also included.

USE CARD FOR FREE LITERATURE

73. Data on Electroplated Palladium and Platinum.

Technic, Inc., Providence, R. I., has issued an authoritative data sheet on electroplated palladium and platinum. For each metal the Technic compilation describes physical properties, from atomic weight to reflectivity, and electrical properties, from resistivity to specific magnetic susceptibility. Corrosion resistance is also detailed, along with hardness electroplated, electroplating specifications, and thickness requirements.

74. Barrel Finishing Information

A catalog being distributed by Roto-Finish Co., 3704 Milham Rd., Kalamazoo, Mich., gives useful information on correct methods to use in barrel finishing.

75. Screen Process Printing Presses

Operational details and specifications on several models of screen process printing presses are contained in literature available from General Research and Supply Co., 572 S. Division Ave., Grand Rapids 3, Mich.

76. Pickling Equipment

A booklet entitled "Equipping the Pickle House," is offered by The International Nickel Co., 67 Wall St., New York 5, N. Y. It describes the use of specially designed Monel equipment in the processing of large and small parts.

The machining, welding, shaping and forging of Monel are discussed and technical bulletins which provide complete details on these operations are listed. Available from Dept. N. International Nickel Co., Inc., 67 Wall St., New York 5, New York.

77. Polishing Head.

The 60 Series polishing head is described in a pamphlet which may be obtained from the Murray-Way Corporation, P. O. Box 180, Maple Rd. E., Birmingham, Mich. Compact assembly of this head is emphasized in describing models available.

78. Vacuum Metallizing Equipment.

Catalog 551, available from the High Vacuum Equipment Corp., 342 Lincoln St., Hingham, Mass., describes vacuum metallizing and points out advantages of the process. Hi-Vac mass production and experimental type metallizing units are described, and information is given on the Planetary Interior Mechanism.

79. Spray Decorating Equipment.

Circulars available from the Finish Engineering Co., Inc., 1115 Cherry St., Erie, Pa., give details on painting machines, spray masks, Multifit Mask Clamps, and mask washers.

80. Surface Preparation.

An illustrated bulletin on surface preparation is available from the Protective Coatings Division of Metalweld, Inc., Scotts Lane & Abbottsford Ave., Philadelphia 29, Pa.

This bulletin points out the importance of proper surface preparation in coating operations, and discusses the possibility of coating failures due to adhesion loss, osmotic blistering and under-film corrosion when this preliminary cleaning operation is poorly executed.

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81. Rack Coating Solution.

Hanson-Van Winkle-Munning Co., Matawan, N. J., offers Bulletin K-101 on Grade M Kote-Rax, a coating for insulating and protecting racks and fixtures used in electroplating baths.

The bulletin tells how to prepare the surface of a rack or fixture before coating, how to blend and apply the primer coat and how to trim excess coating. It also gives information on how to repair accidental breaks.

82. Tumble Finishing Equipment.

The complete line of Grav-I-Flo barrel finishing equipment is shown in a folder obtainable from the Grav-I-Flo Corp., Dept. PF-5, 400 Norwood Ave., Sturgis, Mich.

83. Cleaning Equipment.

A booklet available from The Alvey-Ferguson Co., 636 Disney St., Cincinnati 9, Ohio, gives explanations of Alvey-Ferguson engineered cleaning and processing machines, including custom built equipment.

84. Finger Buffs.

The advantages of the new type No. 200 finger buff in coloring operations are shown in a catalog available from the Geo. R. Churchill Co., Inc., Dept. PF, Hingham, Mass.

85. Protective Linings.

A booklet entitled "Perma Line Protective Linings for Industry" may be obtained from the Perma-Line Rubber Products Corp., 1753 N. Winnebago Ave., Chicago 47, Ill. Several types of synthetic materials are available in these linings to suit individual needs for corrosion protection.

86. Radiant Heaters.

A folder describing Clepco Quartz Radiant Heaters has been released by the Cleveland Process Co., 1967 E. 57th St., Cleveland 3, Ohio. The folder illustrates the various shapes and sizes and the application of these heaters to baking and drying jobs.

87. Buffers and Polishers.

Information on a variety of Cadet infinitely variable speed motor driven polishers and buffers is contained in literature available from the Standard Electrical Tool Co., 2518 River Rd., Cincinnati 4, Ohio.

88. Floor Model Drum Rotator

Morse Mfg. Co., 762 W. Manlius St., East Syracuse, N. Y., has available Bulletin No. 255, which gives complete information on Model 15154 Drum Rotator. This equipment for rotating drums can be used for agitating, mixing and tumbling in the original container.

89. Abrasive Belt Case Histories.

A booklet being distributed by the Minnesota Mining & Manufacturing Co., Dept. PF-55, St. Paul 6, Minn., gives "Case History Reports on 3M Abrasive Belts." Information given is on special problems encountered in grinding and finishing, and solutions thereof.

90. Acid Buggy.

Photographs and descriptive literature on the Arco Acid Buggy are contained in a pamphlet which may be obtained from the Automotive Rubber Co., Inc., 12564 Beech Rd., Detroit 39, Mich.

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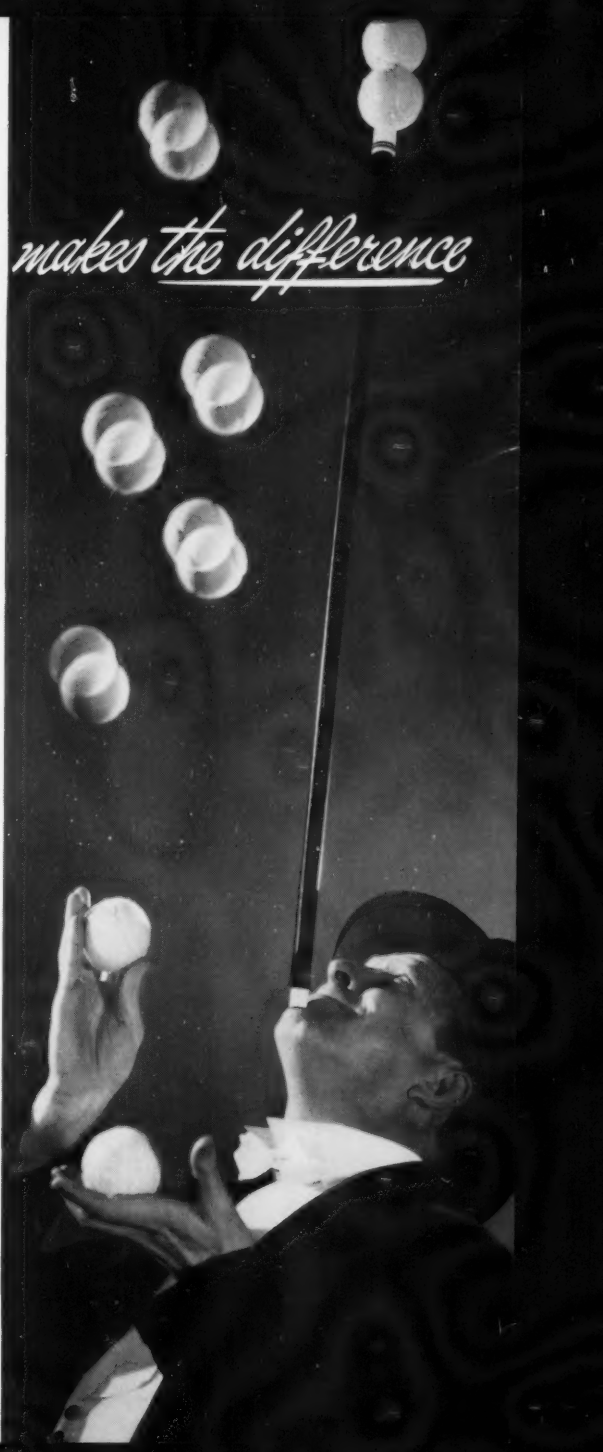

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